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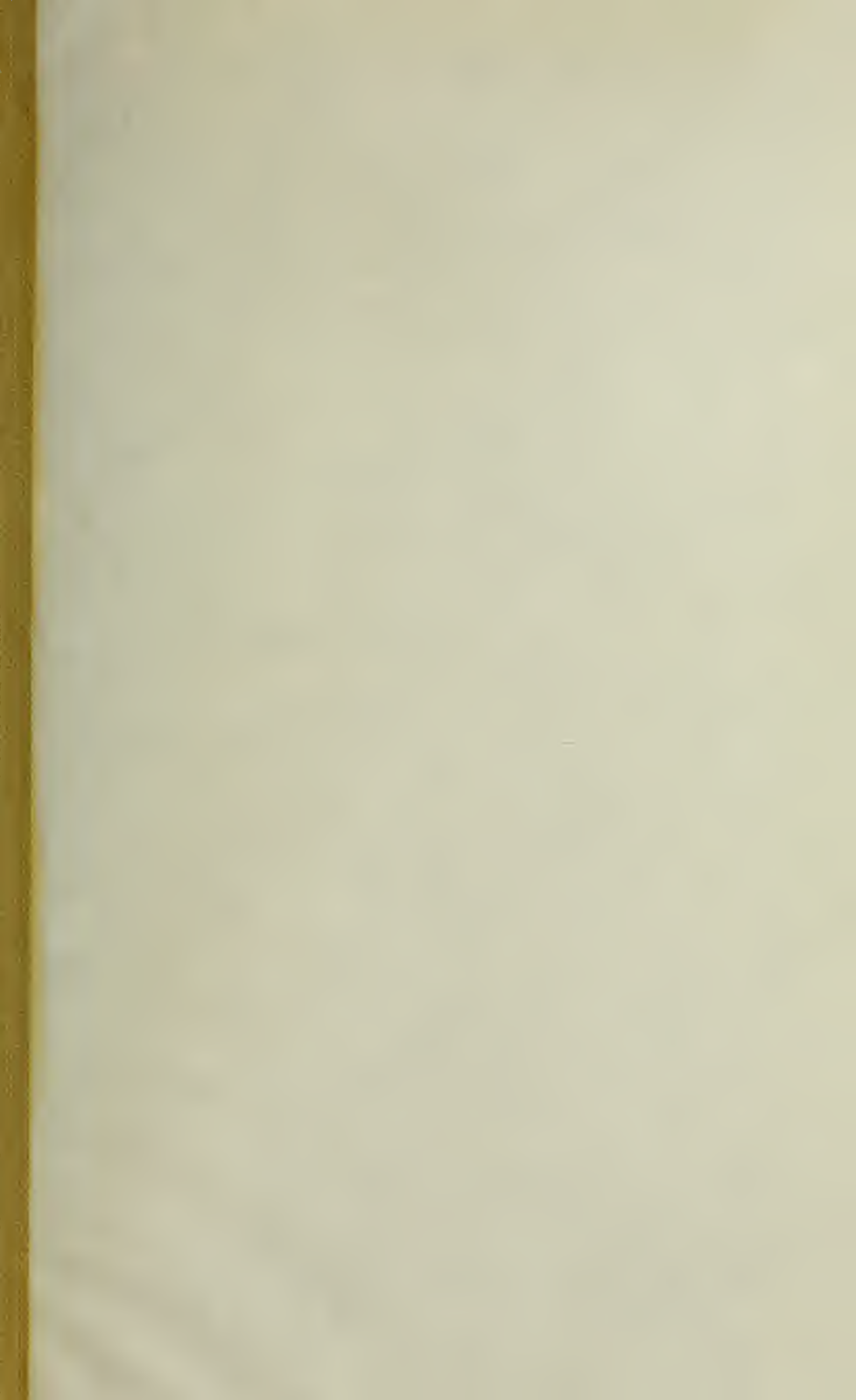
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STATE OF NEBRASKA  
DEPARTMENT OF AGRICULTURE  
LINCOLN

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BIENNIAL REPORT  
1919-1920

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JUL 15 1921



THE FIRST BIENNIAL REPORT  
OF THE  
DEPARTMENT OF AGRICULTURE

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LEO STUHR  
SECRETARY OF AGRICULTURE

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# LETTER OF TRANSMITTAL

Hon. S. R. McKelvie, Governor,

Sir: The first report of the Department of Agriculture as organized under the Civil Administrative Code on August 2, 1919, is herewith submitted for your consideration and approval. This report covers the period from December 1, 1918, to December 1, 1920.

It has been the intent to submit this report of the facts of administration of the past Biennium in a concise manner and without embellishment.

The personnel of the Department wishes to acknowledge the courtesies received from the Executive and other Departments of State during the past two years, these having greatly aided in the administrative work.

Respectfully submitted,

LEO STUHR,

Secretary of Agriculture.

vol. 1 cont.

copying in diary

**EXECUTIVE STAFF  
OF THE  
DEPARTMENT OF AGRICULTURE**

Leo Stuhr

Secretary of Agriculture

W. T. Spencer

Chief, Bureau of Animal Industry

W. S. Frisbie

Chief, Bureau of Food, Drugs and Oil

W. C. Andreas

Acting Chief, Bureau of Markets and Marketing

George G. Koster

Chief, Division of Game and Fish

J. W. Mayer

Chief Clerk, Clerical and Records Division

# DEPARTMENT OF AGRICULTURE

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## POWERS AND DUTIES DEFINED

The Civil Administrative Code which became effective August 2, 1919, merged a number of the various state activities formerly carried on through boards, commissions and departments, into a newly created Department of Agriculture. The general powers delegated to this Department are as follows:

"1. To encourage and promote, in every practicable manner, the interests of agriculture, including horticulture, the live stock industry, dairying, cheese making, poultry, bee keeping, forestry, fishing, the production of wool, and all other allied industries;

"2. To promote methods of conducting these several industries with a view to increasing the production and facilitate the distribution thereof at the least cost;

"3. To collect and publish statistics relating to crop production, marketing and farm economics, the production and marketing of beef, pork, poultry, fish, mutton, wool, butter, cheese and other agricultural products so far as such statistical information may be of value to the agricultural and allied interests of the State; to co-operate with the Federal Government in the matter of collecting such statistical information. Such department shall include in its publications the reports of agricultural, horticultural and like societies, and of live stock associations. Such published statistics shall be the official agricultural statistics of the State;

"4. To encourage the planting of trees and shrubs and the improvement of farm homes generally;

"5. To produce and manufacture biological products to be distributed to live stock producers at the actual cost thereof;

"6. To inquire into causes of contagious, infectious and communicable diseases among domestic animals, and the means for the prevention and cure of the same;

"7. To take all measures necessary for the preservation, distribution, introduction and restoration of fish, game birds and other wild birds;

"8. To see that live stock and stock yards, and other like places where live stock is confined, housed or fed, are properly cared for;

"9. To execute and enforce all laws relating to the inspection of foods, drugs, dairy products, oils, commission merchants, cider and vinegar, oleomargarine and butterine, sanitation of premises used for manufacturing and preparation of foods, cold storage ware-houses, paints, seeds, commercial feeding stuffs, live stock remedies, hotels and inns,



weights and measures and commercial fertilizers, and from time to time promulgate such rules and regulations and adopt such standards of food products as are necessary and proper to enforce the provisions of this title."

### ORGANIZATION

Under this reorganization were concentrated the laws formerly enforced by the Food, Drug, Dairy and Oil Commission, the Live Stock Sanitary Board and State Veterinarian, the Game and Fish Commission, together with a number of new laws relating to agriculture passed by the 1919 Session of the Legislature. The task of classifying or grouping this large number of subjects into bureaus or divisions according to the importance of the activity was then undertaken. After considerable deliberation and conference the following sub-divisions were established in the Department:

- Bureau of Animal Industry
- Bureau of Food, Drugs and Oil
- Bureau of Markets and Marketing
- Division of Game and Fish
- Clerical and Records Division

To the Bureau of Animal Industry were assigned the laws relating to the live stock industry and the prevention and control of live stock diseases.

The Bureau of Food, Drugs and Oil retained most of the activities formerly enforced by the Food, Drug, Dairy and Oil Commission and included the laws mostly of a regulatory nature, relating to Food and Drugs, Dairy, Gasoline and Kerosene, Sanitation of Food Premises, Commercial Feeding Stuffs, Live Stock Remedies, Commercial Fertilizer, Paint and Linseed Oil and Hotels.

To the Bureau of Markets and Marketing were assigned the laws relating to Weights and Measures, Agricultural Seeds, Potato Grading in car lot shipments, Cold Storage, Agricultural Statistics, Crop Reporting and research and investigational work relating to production and distribution of agricultural products.

The Division of Game and Fish retained the activities formerly enforced by the Game and Fish Commission including the enforcement of the Game and Fish Laws and the propagation, conservation and distribution of fish from the different hatcheries and conserved from lakes, ponds, and overflows of the State.

The Clerical and Records Division has charge of the clerical and record work of the Department, the issuing of the various licenses and permits, the keeping of the time and expense of the employees and the furnishing of supplies for the entire Department.

### MANNER OF FUNCTIONING

The Department of Agriculture functions largely through the various bureaus and divisions which have been established under the reorganization. Many of the laws enforced are of a service or regulatory nature. There is, therefore, a similarity in the field work which is standardized in such a way as to promote efficiency and economy. To accomplish this the various field representatives or inspectors are usually held responsible for a definite outlined territory or section of the State. The size of the territory depends upon the volume of work or the number of inspectors that may be available to perform this work. The inspector is required to establish headquarters at the most advantageous point in the territory if possible so that the routing can be made to the best advantage and at the least traveling expense.

The inspectors are required to send in a daily report of the work performed, also to give information relating to their routing for the following two or three days, so that the person in charge at the office may get into direct communication with the inspector without delay. This is of prime importance, in many cases, in order to investigate an emergency complaint as well as frequently to eliminate the necessity of sending an inspector from the Department when a territory man may be in the immediate vicinity from which such a complaint is made. Besides the daily report rendered by the field men they are also required to submit regular reports relating to the work assigned to them. Such reports are then carefully examined in the office and the necessary action taken. The field men are also required to keep an actual field record of work performed by them. These reports cover the work performed in a certain city or county as the case may be. Such record can be demanded by the office for inspection and check and is also of considerable value whenever an inspector severs his connection with the Department and it is necessary to assign a new man to the territory. Such a record furnishes for the new man information as to the work performed in that territory by the previous inspector.

In order that the Governor may be regularly informed of the work that is being accomplished by each activity of the Department, a weekly report is submitted to him giving data as to the nature and amount of the work performed by each branch or sub-division of the Department. It has been found, however, that for the best interests of the service, additional monthly reports be made which summarize the amount of work performed by each field man and the traveling expense incurred by him. In this way it is an easy matter to compare the different inspectors engaged in the same kind of work as well as to compare the different kinds of total work. An average of the volume of each kind of work that inspectors have accomplished is taken as a standard for that kind of work and each inspector is expected to reach this standard.

Traveling expenses have been standardized in a similar manner, so that an average expense for a certain class of inspection work has now

been established. Whenever this amount is exceeded an explanation must be made why such additional expense has been incurred. It has also been possible to compare the expense of field work performed by the use of privately owned automobiles with the expense of the same work done by railway transportation and the hire of automobiles.

This system of reporting is also of value in compiling information for a fiscal or calendar year, it being available at all times so that it is a mere matter of summarizing the monthly reports for any definite period desired.

### STANDARDIZATION

All employees of the Department are classified in grades based upon qualifications as to education and experience for the particular service that is to be performed. An applicant upon appointment is classified within the grade. Provision is made for a specific salary for each classification and for regular increases at intervals of six months or one year. In this way there is an incentive for an employee to remain in the service for the reason that his salary is increased until the maximum is reached for that particular grade. In certain classes of work the employee has the additional opportunity of being transferred or promoted to a higher grade or possibly, eventually, being placed in charge of a bureau or division. In the past there has been no incentive to train for State service and in most cases an appointee received as much salary immediately after appointment as would be received at the end of a biennium.

The permanency of an organization of this kind should be encouraged through some form of civil service so that it would be an inducement to train for this line of work and the State in turn would be materially benefited by the training and experience of employees in the organization. It is expensive for the Department to train individuals for a particular kind of work, besides the necessity for such training is a considerable handicap in the continuity of the various activities. Especially is this true when these activities are of a nature embracing a definite program extending over a period of years, as for instance, tuberculosis eradication in cattle.

Another subject that was given immediate attention under the reorganization of the Department was the standardization of the various forms used for office and field work as well as any other bulletins or printed matter published from time to time. It can readily be seen that the diversity of the work requires a very large number of different forms for the proper enforcement of laws of a regulatory and service nature requiring inspections and reports as well as forms used for permanent records in the office. To accomplish this general specifications were perfected providing for standard size, material, type and arrangement; and, in order that these might be readily referred to, a form number was provided for each form used in the Department. In this way a form can

be readily recognized and re-ordered. The date inserted at the time of issuance is a guide to the number to be re-ordered for future use. Such uniformity of standard sized forms is a distinct advantage in the filing of this information, which constitutes the permanent records of the work performed. The field work performed in many cases is of little permanent value unless information to this effect is on record and available whenever needed.

Before the Civil Administrative Code became effective each separate activity purchased its own supplies. Under the present plan all supplies are purchased through the State Purchasing Agent, who is in a position to investigate and receive bids and in practically all cases purchase supplies for less money than these could be bought for by individuals, in many cases, inexperienced in this line of work. To further safeguard against deficiencies, whenever a requisition is made for supplies the funds available for such purpose are encumbered to the amount of the purchase, so that there is little possibility of exceeding appropriations.



# Bureau of Animal Industry

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## ORGANIZATION AND DUTIES

The Bureau of Animal Industry is charged with the enforcement of all laws relating to the live stock industry and the prevention and control of live stock diseases. The principal division of this Bureau is that of Inspection and Control. This activity covers all field and inspection work carried on by the Bureau. The inspectors who are graduate veterinarians are assigned according to the various live stock diseases the regulation or control of which is undertaken. Under this classification of diseases may be mentioned, Tuberculosis, Scabies, Hog Cholera, Anthrax, Glanders and Blackleg. In addition to these diseases a certain amount of sanitation and disinfection is carried on under supervision of inspectors of the Bureau.

The Bureau is also charged with the enforcement of the law relating to stallion inspection. This law provides compulsory inspection of all stallions and jacks used for service in the State. An inspection fee is charged for this work.

The Bureau co-operates with the veterinary practitioners in carrying on disease control work and in many cases a local practitioner is called upon to make an emergency investigation. These private veterinarians are also authorized to make inspections of interstate shipments of live stock. It is from reports of inspections of this kind and of live stock passing through the terminal market that statistics are obtained relating to exports and imports of live stock.

The Bureau is not equipped with laboratory facilities to examine pathological specimens that are submitted from time to time by the regular field force as well as practitioners; and, consequently, it is necessary to send specimens of this kind to the College of Agriculture of the University where competent men are available and equipment maintained so that specimens can be examined and information thus derived used for disease control purposes in the field.

## TUBERCULOSIS ERADICATION

The most important phase of live stock disease control in the past Biennium has been the tuberculosis eradication. This work is not only important from an economic standpoint on the part of the live stock interests but also as a public welfare measure.

The Federal Bureau of Animal Industry co-operates with this Bureau in the work of tuberculosis eradication, each furnishing the same number of veterinarians assigned to this activity. The plan under which the

work is carried on co-operatively is known as the Accredited Herd Plan. This means of carrying on this work on a co-operative basis was adopted by the United States Live Stock Sanitary Association at its annual meeting held in Chicago in December, 1917. An appropriation was then made by Congress available for carrying on this activity and also providing for an indemnity for owners of reacting cattle and who had formerly signed an agreement to operate under the Accredited Herd Plan.

The 1919 Session of the Legislature appropriated \$75,000.00 to meet the Federal appropriation of that amount as applied to Nebraska. Under this agreement the same number of men are furnished by both the Federal authorities and the State in carrying on tuberculosis eradication work. It furthermore provides that an equal indemnity for reactors will be paid by both Federal and State Departments.

In the past Biennium, owing to the small appropriation, the work has been limited largely to the pure bred herds of the State. The reason for this being that the pure bred herds are more valuable and constitute the basis of our best breeding stock. With an increased appropriation for the next Biennium it is the intention to develop this activity so that it will be available for all dairy herds. The owners of such herds may then receive indemnity for reactors. The Dairy Law provides that milk or cream cannot be sold from cows which have not been tested by a duly authorized veterinarian and certified to be free from disease unless the product is pasteurized before it is sold. During the past Biennium the owners of dairy cattle have not been able to receive indemnity for condemned animals. In the future with an increased appropriation any of such owners may come under the Accredited Herd Plan, or if they are unwilling to comply with such regulations as are imposed by this plan, may receive State indemnity for reactors.

The Federal meat inspection service at the Omaha market has been another means of locating the source of infection of a great number of herds. Reports of animals shipped to market and found to be diseased are received daily by the Bureau from the Federal officials. In this way the disease is traced back to the farm and an effort then made to have such infected herds tested and the diseased animals disposed of.

The reliability of the Tuberculin Test is no longer questioned and when performed by trained and experienced men is almost infallible. Statistics show that fifty thousand (50,000) head of cattle reacted to the test and slaughtered under Federal inspection at the Omaha plants, 96.5% per cent showing lesions of the disease visible to the naked eye. To further illustrate the importance of controlling and eradicating tuberculosis, data relating to swine affected may be given. In the year 1920, two million five hundred eighty-two (2,000,582) hogs were slaughtered at the South Omaha packing plants under Federal inspection and of these 255,050, or 12½%, were found affected with tuberculosis.

The following tables give a summary of (1) the work carried on under the Accredited Herd Plan and (2) the tests made of dairy cattle under the provisions of the Dairy Law.

(1)	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Signed Applications .....	239	263	502
Herds Tested .....	197	202	399
Beef Cattle Tested .....	2,612	6,729	9,341
Dairy Cattle Tested .....	917	2,317	3,234
Animals Tested .....	3,529	9,126	12,655
Animals Tested including Retests and Additions .....	7,726	20,611	28,337
Percentage of Reactors Found.....	5.4	4.9	5.1
Total Number Herds Accredited.....	9	32	41
Indemnities Paid .....	\$9,707.92	\$23,600.37	\$33,308.29

(2)	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Dairy Tests .....	2,148	7,565	9,713
Dairy Animals Tested.....	10,119	27,738	37,857
Beef Animals Tested.....	467	1,443	1,910
Animals Tested .....	10,586	29,181	39,767
Percentage of Reactors.....	5.6	3.4	4.0

### SCABIES

Scabies in cattle is a parasitic infection which has been a source of annoyance and great expense to the cattle growers of the grazing district of Nebraska for the past fifteen or twenty years. During most of this time there has been considerable work done by State and Federal governments in attempting to control and eradicate this disease.

When this disease was widespread ten or twelve years ago there were about twelve or fifteen veterinarians stationed at advantageous points in assisting the State in its control and eradication. They were very successful in their work and had practically entirely eradicated all sources of infection, but funds for this work were such that it necessitated most of these men being taken out of Nebraska some four or five years ago and the State at that time had not sufficient funds to continue the work.

For the past two years the infection has been constantly spreading until now there is a widespread infection over all of the grazing portion of the State. This demonstrates the necessity of vigilance in controlling infectious diseases of live stock and this disease should not again be permitted to gain a foothold due to lessening the effort to control the same. The men working on this project are expected to make a systematic inspection of all cattle in a given territory assigned to each during the winter months when the cattle are bunched and on feed, in this way locating all of the infected herds and so they may arrange for the



dipping of these cattle at a later date when weather conditions will permit.

The two "dips" most commonly used for treatment of scabby cattle are a solution of nicotine, or a combination of lime and sulphur. Owing to the fact that these dipping solutions will not destroy the egg of this parasite, it is necessary that infected cattle be dipped twice at intervals of ten day periods.

The following figures indicate the amount of work that has been done in the past Biennium in connection with this activity.

### CATTLE

	Dec. 1, 1918 * to Dec. 1, 1919		Dec. 1, 1919 to Dec. 1, 1920		Total for Biennium	
	Herds	Animals	Herds	Animals	Herds	Animals
Inspected .....	1,042	270,233	1,353	349,126	2,395	619,359
Free .....	595	154,023	761	188,496	1,356	342,515
Infected .....	312	81,080	404	119,007	716	200,087
Exposed .....	135	35,130	188	41,627	323	76,757
Dipped on 1st Dipping.....	279	70,430	515	149,430	794	219,860
Dipped on 2nd Dipping.....	129	57,560	374	115,123	503	172,683
Infection at Market Centers.....			105	6,682	105	6,682

\* These figures for the first year include Sheep also.

The above herds passed through fifty-three (53) stock yards, at point of shipment. These stock yards were all disinfected.

### HOG CHOLERA

There has been a notable decrease in the number of outbreaks of hog cholera during the past few years until at the present time the control of this disease is considered well in hand and less infection exists than at any time during the past decade. Cooperation on the part of everyone interested directly or indirectly in live stock conservation has made this condition possible.

The duties of State and Federal veterinarians assigned to hog cholera work have consisted in making diagnoses, advising with farmers, assisting local veterinarians, cooperating with live stock agencies and in every way endeavoring to be of benefit to the live stock interests in the matter of controlling this and other infectious swine diseases.

The results obtained through this close cooperation during the past two years are evidenced by the greatly reduced losses. Prejudice against the serum treatment which formerly existed has now almost entirely disappeared. There is now a disposition on the part of owners to immunize their herds before any signs of sickness appear.

The few fundamental principles mentioned below, if followed faithfully by breeders, would practically eliminate losses from cholera and other infectious diseases of swine.

Keep only immune brood sows.

Immunize pigs at weaning time.

Do not allow litter and filth to accumulate in barns or lots.

Systematize cleaning and disinfection.

Remove hogs showing signs of sickness from balance of herd immediately and summon a veterinarian.

Hogs, dead of any cause, should be completely destroyed by burning immediately.

Persons from diseased premises should be refused admission to hog lots or barns.

Fence off, or drain, stagnant pools and wallows, or streams flowing from probable contaminated areas.

Following is a record of the work performed under direct supervision of State and Federal veterinary inspectors:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Number of Animals Vaccinated.....	49,797	35,699	85,496
Number of Herds Vaccinated.....	1,184	1,446	2,630
Special Investigations .....	81	46	127

### ANTHRAX

This is an acute infectious disease which may affect any of the domestic animals. The fact that Anthrax is also communicable to the human makes it essential that the most vigorous efforts be resorted to that it may be eradicated upon the first appearance of symptoms indicating its presence.

The germ causing this disease multiplies very rapidly in the body of the animal. The germ is capable of remaining in the soil for years withstanding extreme temperature changes awaiting favorable conditions for further growth and multiplication. This being true it can be readily understood why the burning of the carcasses of diseased animals, draining of infected areas and continued cultivation of the soil are of prime importance as direct sunlight and air greatly hinder the growth of the Anthrax germ.

Persons often-times become infected with Anthrax while handling or skinning carcasses of animals which have died of the disease. A slight wound or abrasion of the skin is an ideal place for the infection to gain entrance. The method most successfully employed for immunization against Anthrax is through the use of Anthrax vaccine. This product contains many dangerous properties, hence its use should be confined to those cases only where the disease has appeared and the administration of the product should be left to experienced veterinarians. The

handling of all cases of Anthrax should be immediately placed under the supervision of the veterinarian who should advise with this Bureau as only in this way can the spread of this infection be controlled and losses held at a minimum.

During the summer months of the past two years Anthrax has appeared in several of the northern counties of the State. Prompt vaccination, isolation and proper disposal of diseased carcasses prevented a further spread of infection. Varying losses were reported from infected areas but were of such nature that no authentic data as to the actual number lost could be obtained. Most of the animals affected were cattle.

The following number of cases were officially investigated and quarantined:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Number Cases Investigated.....	34	24	58
Number Animals Lost.....	102	180	282

### GLANDERS

Glanders is a disease which in former years when many horses and mules were used in cities and towns was of grave concern to owners of these animals. The incurable nature of the disease and its communicability to man makes it one of the most feared diseases known to man or beast. The elimination of the public drinking trough and the advent of the Mallein Test for the detection of the disease together with stringent State laws regulating transportation have been the principal means of eradication.

The tests for Glanders are similar to those employed in tuberculosis eradication work. The one most in use at the present time is the Ophthalmic or Eye Test wherein a small amount of the product Mallein is instilled in the eye and observations made at later periods. A reacting animal will show evidence through a characteristic discharge from the eye into which the Mallein was placed.

Reported cases are immediately taken in charge by the State. The animals are appraised for indemnity, destroyed and the carcasses burned or deeply buried in quick lime and the premises cleaned and disinfected according to specific instructions. This disease has decreased steadily from year to year due to the vigilance and cooperation of all concerned until it has been practically eliminated from the State. Only occasionally is a case of Glanders found.

Following is a summary of the work and results for the Biennium:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Number Mallein Tests Administered.....	7,333	14,313	21,646
Number Animals Found Affected.....	3	5	8
Indemnities Paid .....	\$313.97	\$71.67	\$385.64

## BLACKLEG

Stock raisers in the State having experienced extensive losses from this infection in the past have as a rule become well versed in preventive measures and, availing themselves of this advantage, the losses have been almost negligible.

In previous years the loss from Blackleg in the infected districts has reached as high as twenty-five percent. The loss has now been almost completely overcome by preventive vaccination. The first vaccination practiced was by the use of an attenuated virus, in different forms. This method reduced the loss to as little as one-half of one percent. By such, unfortunately, the immunity conferred was not effective for a longer period than about six months.

Of recent years, by the use of a germ-free vaccine, loss has virtually been eliminated wherever vaccination has been practiced. The immunity resulting from the use of this form of vaccine too is practically permanent. Thus doing away with the necessity of re-vaccination. The germ-free vaccine is known as "Agressin" or "Filtrate," depending upon the method of manufacture.

Blackleg is now classed as a disease little to be feared, as about the only losses occasioned by it at this time are due to the indifference of the owner to vaccination.

## SANITATION AND DISINFECTION

Sanitation and disinfection hold a very important place in live stock disease control. It is common belief that with the removal of diseased animals all danger of a continuation of infection has been overcome. Every effort has been made to follow up each case of infectious live stock disease with a thorough cleaning and disinfection wherever practical.

While a large portion of the work in this connection has been done according to instructions sent out, the work outlined below is that coming under direct supervision of veterinary inspectors of this Bureau. One veterinary inspector devotes his entire time to the supervision of this phase of the work and it is considered one of the greatest determining factors in the ultimate eradication of any communicable disease such as tuberculosis and glanders.

The work is carried on in a systematic manner so as to meet conditions in each particular case. By the removal of accumulated filth and manure from barns and lots, exposing all portions of stalls, mangers, floors, partition walls, ceilings, etc., to the application of an approval disinfectant and in many cases whitewash in addition, it is intended that when this work is completed in each instance that the premises are in condition to receive healthy animals without fear of further infection from this source.

The following inspections have been made under the direct supervision of inspectors of this Bureau:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Number of Inspections.....	98	111	209
Number of Disinfections:			
(a) Premises .....	64	81	145
(b) Stock Yards .....	30	23	53
(c) Cars .....	20	23	43
Total Disinfections .....	114	127	241

### STALLION INSPECTION

The Stallion Inspection Law requires that before any stallion or jack is used for public service the animal must pass a satisfactory physical examination given by a veterinarian authorized by the Bureau to make such examinations. The purpose of this inspection is to determine whether or not the animal is affected with any disease of a communicable nature or malformation which might be transmitted to the offspring.

The law provides that every stallion and jack shall be examined between the age of two and three years and again between the ages of five and six years. An inspection fee of three dollars (\$3.00) is charged at time of first examination. For the years intervening between first and second inspections a dollar fee is charged for which a renewal certificate is issued. On payment of the regular fee of three dollars (\$3.00) a life certificate is granted at time of second inspection.

It is required that these certificates be posted in a conspicuous place on the building in which the stallion or jack is kept. The certificate contains all information relative to ownership, breeding, and the inspection report of the animal's physical condition.

In compliance with the Stallion Registration Law the following inspections have been made:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Pure Bred Stallions Inspected.....	212	314	526
Grade Stallions Inspected.....	45	52	97
Stallions all Classes Inspected.....	257	366	623
Jacks Inspected .....	131	262	393
Certificates for Public Service Issued.....	540	702	1,242

Total number of animals rejected for unsoundness rendering them unfit for service—6.

### EXPORTS

The exportation of live stock is governed by the regulations of the state into which the animals are to be shipped. Veterinarians approved by the Federal government and by the live stock sanitary officials of the state in which they reside are authorized to make inspections for interstate shipments.



Certificates of inspection are made by the veterinarian in charge. One copy is attached to the bill of lading covering the shipment while the other copies are forwarded to this Bureau for approval. One copy of the health certificate is placed on file in the office and one forwarded to the live stock sanitary official in the state to which the cattle are destined. In the case of tuberculin tests, one approved copy of the certificate is also forwarded to the office of the Federal Bureau at Washington, D. C. Under such a plan it is possible to keep a detailed record of all shipments and thus guard against movements of diseased animals.

Live stock of all classes exported during the past two year period is as follows:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Stallions .....	136	48	184
Jacks .....	259	149	408
Mules .....	3,506	2,828	6,334
Horses (all classes except stallions).....	14,089	16,048	30,137
Cattle (Grazing) .....	15,267	25,732	40,999
Cattle—Dairy and Beef { Grade .....	3,438	6,269	9,707
{ Pure Bred .....	971	1,025	1,996
Swine { Stock .....	4,312	3,826	8,138
{ Pure Bred .....	1,739	1,331	3,070
Sheep (All Classes) .....	9,378	9,627	19,005
Total animals Exported.....	53,095	66,883	119,978

### IMPORTS

The live stock sanitary regulations of Nebraska provide that all animals entering the State meet certain health requirements as a safeguard against the importation of stock affected with disease. As an added protection to the live stock industry an important regulation requires that all pure bred cattle entering the State be quarantined and subjected to a retest for tuberculosis sixty (60) days from date of entry, thereby eliminating the possibility of affected animals being placed with herds free of tuberculosis.

Live stock of all classes imported during the past two year period is as follows:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Stallions .....	13	64	77
Jacks .....	5	43	48
Mules .....	382	251	633
Horses (All Classes except Stallions).....	1,830	2,061	3,891
Cattle (Grazing) .....	61,478	3,416	64,894
Cattle—Dairy and Beet { Grade .....	2,646	1,532	4,178
{ Pure Bred .....	951	832	1,783
Swine { Stock .....	82,075	27,037	109,112
{ Pure Bred .....	1,371	1,005	2,376
Sheep (All Classes) .....	114,366	16,594	130,960
Total Animals Imported .....	265,117	52,835	317,952

## SPECIMENS EXAMINED

Through the agency of the Bureau 318 pathological specimens obtained from cases the diagnoses of which were doubtful were examined at the well equipped pathology laboratory located at the University Farm. The diagnoses furnished from these examinations enabled this Bureau to proceed intelligently along lines of control.

Dec. 1, 1918	Dec. 1, 1919	Total
to	to	for
Dec. 1, 1919	Dec. 1, 1920	Biennium
268	50	318

## SPECIAL INVESTIGATIONS

Activities under this heading are directed toward the investigation of cases of special importance brought to the attention of the Bureau through indirect reports and requests for assistance and advice.

Veterinary Inspectors employed by the State make these investigations and through personal observation of the conditions at hand are in a position to advise owners and take all steps necessary for the control of any infectious disease should the investigation prove it to be such.

Many outbreaks of disease of highly infectious nature are suppressed on first appearance, thereby saving thousands of dollars to the live stock industry of the State through the ability to send inspectors immediately to the territory from which the report was received.

The number of investigations of special importance for the Biennium are as follows:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Special Investigations .....	284	225	509
Quarantines Issued .....	42	21	63

## SUMMARY

During the coming Biennium it is hoped that legislation enacted will provide for the indemnifying of cattle owners under the Dairy Laws. If this is the case particular attention will be given to develop this activity. It is intended to perfect an organization with the practicing veterinarians under which the work of testing dairy cattle for tuberculosis will be left to the local practitioner. During the past Biennium over fifty thousand cattle were tested in the State. If indemnity is provided for dairy cattle reacting to the test the number tested during the next two years should be greatly increased.

The scabies situation, especially in the western part of the State, will receive very careful supervision. It is believed that by so doing that the disease can be kept in control and gradually eradicated. Should it become necessary, however, a quarantine will be placed over the grazing section for a definite period, and, in that case intensive means will be employed to effect eradication.



# Bureau of Food, Drugs and Oil

## ORGANIZATION AND FUNCTIONS

The Bureau of Food, Drugs and Oil comprises the following Divisions:

Division of Food and Drugs Inspection

Dairy Division

Laboratory Division.

The chief of the Bureau is responsible to the Secretary of Agriculture for the details and enforcement of the laws assigned to the Bureau, for the supervision of the inspectors and chemists, and to make recommendations to the Secretary where departmental action is deemed necessary from the report of such inspection or analysis.

The Division of Food and Drugs Inspection is composed of inspectors trained for inspection of food, drug and petroleum products. These inspectors are also employed in the inspection and regulation of sanitation on premises used for the manufacture or sale of food. The State is divided into twelve (12) districts each in charge of an inspector responsible for the details of inspection work in that district. In addition there are employed special or general inspectors not assigned to a particular district whose duties are of a special nature such as inspection of food factories, flour mills and for the investigation of complaints involving special qualifications. Each inspector is responsible directly to the chief of the Bureau and is required to submit regularly reports of all places visited and of all activities.

The Dairy Division consists of inspectors with special training and fitness for the inspection of dairy establishments, creameries and other dairy manufacturing, and for the supervision and inspection of cream receiving stations. For purposes of inspection the State is divided into seven (7) districts each in charge of an inspector responsible for conditions in that district pertaining to the dairy industry. The inspectors in this Division are responsible directly to the chief of the Bureau and are required to submit regularly reports of inspection and other activities.

The Laboratory Division comprises chemists and other assistants necessary in the analysis of samples submitted by inspectors to determine as to their freedom from adulteration or misbranding within the meaning of the law. Laboratory reports are made directly to the chief of the Bureau and on the basis of such reports recommendations are made to the Secretary of the Department when it appears that the law has been violated and legal proceedings are deemed advisable.

## LAWS ENFORCED

The Acts of the legislature assigned to this Bureau for enforcement are as follows:

- Food and Drugs
- Dairy
- Gasoline and Kerosene
- Sanitation of Food Premises
- Commercial Feeding Stuffs
- Live Stock Remedies
- Commercial Fertilizer
- Paint and Linseed Oil
- Hotel.

These laws are enforced by means of inspection or analysis or both. These laws are all a part of the criminal statutes and offenses are punishable generally by a fine of ten dollars to one hundred dollars or by a penalty of ninety (90) days imprisonment or both. Special methods are provided such as the issuance of orders to require compliance before prosecution is recommended. These will be noted under the laws in question. A report of the progress made under each law during the past Biennium follows:

## FOOD AND DRUGS

The law of this State relating to food and drugs defines the adulteration of these substances and also defines what is construed as misbranding. This law prohibits the adulteration of any food with substances which may be injurious to health or by the substitution of any food product with an inferior or worthless article and provides regulations for the labeling of all foods so that the purchaser shall not be misled or deceived in any way.

Drugs are also defined and are required to conform to certain official standards. Drugs not conforming to such standards are declared to be adulterated. Included with the definition of drugs are so called patent or proprietary medicines for which no official standards are fixed. These, however, are required to be labeled in such a way that they shall bear no false or misleading statements either in respect to the ingredients or to their medicinal or curative properties.

The enforcement of the provisions of this Act is accomplished by the collection and examination of official samples of food and drug products manufactured or offered for sale. Inspectors are required to submit from time to time samples of all drugs and remedies which are in any way suspected of being adulterated or misbranded. These samples are examined and analyzed in the laboratory to ascertain whether they conform to the standards for official preparations and to determine whether or not they are misbranded within the meaning of the law.

It is impossible to indicate in a report of this kind the amount of inspection work devoted exclusively to enforcement of the law relating to adulteration of food and drugs for the reason that very few inspections and investigations are made for this purpose alone but are made in connection with so called sanitary inspections. Since all establishments handling food comes within the provision of the law relating to sanitation, inspection is always made for that purpose and investigation as to the food sold is included in the same report. Probably the best index as to the work done along the line of food adulteration is the number of analyses completed. The laboratory reports for the Biennium follows:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Analyses .....	1,193	1,695	2,888

These analyses cover all kinds of food products, drugs, commercial feeds and remedies, petroleum products and linseed oil. As a result of these analyses one hundred eighteen (118) prosecutions were filed during the Biennium charging adulteration or misbranding and conviction and fine secured in each case. It is interesting to note that the above number of prosecutions for violation of the Food and Drugs Act comprise seventy-five percent (75%) of all the prosecutions filed by this Bureau for violation of all the laws assigned to it.

The general character of the analytical work has been about the same during the two years covering about the same class of substances with few exceptions. During the summer of 1919 a large number of samples of ice cream were analyzed owing to a comprehensive survey of the entire State regarding the quality of the ice cream being manufactured and sold. During the summer of 1920 considerable attention was paid to bottled beverages, a total of four hundred ten (410) analyses having been made in connection with these products. As a result of this work a number of prosecutions were filed for manufacture or sale of bottled beverages containing saccharin, a coal tar sweetener, prohibited by law. During the winter of 1919 and 1920 there were a large number of samples of flour mill products analyzed in connection with inspection of these mills, particularly with reference to the character of the by-products manufactured and sold.

At the present time the food and drugs offered for sale in Nebraska are generally free from adulteration and misbranding. Constant attention and supervision are necessary, however, to maintain this condition. Owing to the character of the adulteration of food and drugs at the present time, requiring for its detection more extensive chemical analysis and research in many cases and in order that proper attention may be given to the other laws charged to this Bureau for enforcement, it is deemed essential that ample provision should be made for sufficient appropriation to insure sufficient laboratory help and their continuance in the service. An addition of two chemists to the labora-

tory force at the present time is necessary if the work is to be properly covered during the next Biennium and the addition of a competent bacteriologist should not long be delayed owing to the necessary work in connection with enforcement of the Dairy Law as well as certain phases of enforcement of laws relating to food and drugs.

### DAIRY

The present Dairy Law was enacted at the 1919 Session of the Legislature. The Dairy Law which was on the statutes before that time was not sufficiently comprehensive to include all phases of dairy production, handling, sanitation, and the necessary standards of dairy products.

The present law requires milk and cream, the source of all other dairy products, to be obtained under proper conditions as to the care and housing of cows and provides certain requirements for milk and cream and all other dairy products from the time of their production or manufacture until they reach the hands of the ultimate consumer. One of the most important provisions of this law is the one requiring all milk and cream used for consumption to be obtained from tested cows or to be pasteurized before being sold. Under this Act all cows supplying milk and cream for consumption must be tested at least once each year and pronounced free from disease by a duly licensed veterinarian. This is designed to protect the health of the people, particularly, the babies against possible infection from tuberculous cows. A large part of the time of the dairy inspectors has been devoted to activities in connection with the enforcement of this section of the law.

In addition to dairy establishments and dairy products this law also provides regulations as to the maintenance of cream receiving stations and station operators. Each station must be in charge of an operator who is required to be licensed by the Department and before securing a license must pass a written examination and test demonstration before one of the inspectors. Examinations are held at regular times and places throughout the State and all licenses are issued at the office in Lincoln. The law provides a penalty for testing without a license or manipulation of the Babcock Test in any way and requires that stations shall be maintained in a clean and sanitary manner.

The following statistics show what has been accomplished during the Biennium:

### NUMBER OF INSPECTIONS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Dairy Establishments .....	795	1,042	1,837
Cream Receiving Stations.....	1,056	2,594	3,650
Creameries .....	13	84	97
Ice Cream Manufacturers.....		32	32
Cheese and Condensed Milk Plants.....	2	2	4
Grand Total .....	1,866	3,754	5,620



## ANALYSES OF DAIRY PRODUCTS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Milk and Cream.....	118	163	281
Ice Cream .....	127	84	211
Butter and Cheese.....	6	26	32
Grand Total .....	251	273	524

It will be noted that the number of analyses in connection with dairy products is rather low in proportion to the number of inspections. The main reason for this is that the dairy inspectors are trained to do considerable of this work in the field and that practically all of the tests of milk and cream for butter fat content, formerly done in the laboratory, are now made by the inspectors at the time of inspection and only samples for purposes of a check analysis or on which a prosecution may be recommended are sent to the laboratory. A considerable increase in the number of inspections for the last year of the Biennium will be found. This is attributed to the fact that the inspection force was larger during at least a part of that year and to the fact that the inspectors were better experienced and more systematic in their work.

During the Biennium fifty-seven (57) prosecutions were filed for violations of this law and included the following offenses: sale of milk and cream below standard, the sale of milk from non-tested and diseased herds, the sale of milk without a license and for the conduct of cream receiving stations by unlicensed operators.

While considerable progress has been made in connection with this law it is felt that the work should be even more extended during the coming Biennium. In order to accomplish results and secure compliance with terms of the law the inspection force devoted to this work should be increased. At least two (2) additional inspectors should be added to the force employed during the past Biennium. The additional work made necessary by some of the provisions of the Act, such as requiring cows to be tested, cannot be accomplished otherwise. As previously stated also a competent bacteriologist is deemed essential if full compliance with the provisions of this law is to be maintained at all times.

## GASOLINE AND KEROSENE

The law relating to the inspection of gasoline and kerosene requires that these products be inspected before being offered for sale or used within the State. This applies to every shipment of either gasoline or kerosene and requires that notice be given the Department when any of these oils are received by any dealer in the State.

Inspectors determine and record the specific gravity and flash point for all kerosene and the specific gravity for all gasoline and other light distillates. If a shipment is found that does not comply with the re-

quirements it is rejected by the inspector and whenever the inspector is in doubt as to the further purity of an oil an official sample is sent to the laboratory for analysis. The amount of both products inspected during the Biennium follows:

### GASOLINE & KEROSENE INSPECTIONS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Kerosene .....	28,554,450 gals.	26,619,600 gals.	55,174,050 gals.
Gasoline .....	75,226,200 gals.	78,726,450 gals.	153,952,650 gals.
Grand Total .....	103,780,650 gals.	105,346,050 gals.	209,126,700 gals.

The Legislature at the Session in 1919 passed a law providing for the adoption of a standard for motor gasoline. This standard is based upon a fractional distillation of a measured quantity of a sample of gasoline. The object of this standard is to insure a minimum grade of gasoline that shall have a uniform range for boiling points and shall not contain any excess of so called heavy fractions. At the time this law was introduced the laboratory analyses showed very little of the gasoline at that time offered for sale in Nebraska would comply with these requirements. The oil companies doing business in the State were notified as to the time of taking effect of the new law and the various grades of gasoline put out by these companies gradually were found to come within these requirements.

During the Biennium a number of prosecutions were filed for selling gasoline below these standards but in comparison with the total amount of gasoline consumed the violations have been found to be very few in number. There were no violations charged against the sale of adulterated kerosene during this period. At the present time the kerosene and gasoline in this State may be said to be generally in conformity with the standards provided by law.

### SANITATION OF FOOD PREMISES

The statute governing sanitation of food premises is very comprehensive and includes all places of business in the State where food is manufactured, sold, prepared or handled in any way. Explicit provisions are set forth by law as to the maintenance and conduct of these establishments and these provisions are further supported by rules and regulations of the Department.

This law is enforced mainly by the inspection and actual field work of the inspectors. The law provides that where an inspection report shows conditions in any food establishment which are insanitary or not conforming to statutory provisions a written notice is to be issued by the Department. This notice sets forth in detail the conditions found and orders the necessary changes to be made within a time specified. Failure to comply with the terms of any written order or the act of maintaining insanitary conditions are offenses within the law and upon

conviction are punishable by a fine or imprisonment. A list of the inspections for the Biennium follows:

### INSPECTIONS OF FOOD ESTABLISHMENTS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Groceries .....	1,929	2,188	4,117
Meat Markets and Slaughter Houses.....	574	934	1,508
Bakeries and Confectioneries.....	371	540	911
Restaurants and Hotel Kitchens.....	1,075	1,964	3,039
Drug Store Soda Fountains.....		124	124
Concessions .....		256	256
Bottling Works .....		48	48
Miscellaneous Food Factories.....	3	36	39
Flour and Feed Mills.....	20	74	94
Grand Total .....	3,972	6,164	10,136
Sanitary Orders Issued.....	406	633	1,039
Prosecutions Filed .....	7	25	32

An increase in the number of inspections for each class of establishment is noted for the second year of the Biennium due to increased efficiency and application of the inspectors. During the summer months of 1920 a particular campaign was made on the inspection of soda fountains in drug stores and also of concessions at the State Fair and the various county fairs. These activities had received practically no attention in the former year and it seemed desirable to have some supervision and regulation on these places. No complete inspections of bottling works were made in 1919 but every plant in the State was visited during 1920 and a thorough inspection made. Considerable increase in the number of inspections of miscellaneous food factories is also noted. This includes all canning factories, the large candy manufacturers and various food factories.

The number of prosecutions filed for violations of this law appears very small in comparison with the number of inspections made and orders issued. Our records show, however, that most of the written orders are complied with without further action. Requests have been made from time to time for extension of the period allowed for compliance with these written orders for such reasons as difficulty in securing labor or unexpected sickness and in such contingencies extension of time is generally granted. Prosecutions have been filed in cases where no apparent effort or attempt has been made to comply with any part of a written order or where dealer has flatly refused to comply or where conditions have been flagrantly in violation of the law as to warrant special action. A comparison of the table will show that while the total number of written orders issued during the last year of the Biennium is greater than the number issued during the first year the percentage, however, to the number of inspections made is lower for the last year than the first year. This is an indication of an improvement in the sanitation of food establishments.



The work in connection with this law is of great importance as it directly concerns the health of the people. The program of this Bureau for the present Biennium calls for an increase in the number of inspections and a complete survey of every food handling establishment in the State.

### HOTELS

The law relating to hotels was originally assigned to a hotel commission for enforcement. By action of the legislature in 1917 the work in this connection was made a part of the work of the Food, Drug, Dairy and Oil Commission and since the inauguration of the Civil Administrative Code the details of enforcement have been assigned to this Bureau.

This law provides that all hotels and restaurants in this State must secure from the Department of Agriculture a certificate of registration before conducting their business. It further provides for special requirements in the way of sanitation and conveniences for guests and further provides that no hotel or restaurant shall be conducted except in a manner consistent with the health, safety and comfort of the guests.

Penalties provided are revocation of certificate of registration, closing of the premises, or prosecution upon failure to comply with written notice of changes required to conform to the provisions of the law. A record of the work for the Biennium follows:

### HOTEL INSPECTION

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 • to Dec. 1, 1920	Total for Biennium
Hotels .....	176	1,025	1,201
*Restaurants and Hotel Kitchens.....	1,075	1,964	3,039
Written Notices Issued.....	12	276	288
Grand Total .....	1,263	3,265	4,528

\* Already included under summary of inspections governing sanitation of food premises.

The law provides that each hotel and restaurant in this State shall be inspected at least once annually. Since there are between six hundred (600) and seven hundred (700) registered hotels in this State, it will be seen that they were not all covered during the first year of the Biennium. This is explained for the reason that a large number were inspected in December 1919 which month is listed with the second year of the Biennium. The total number of inspections, however, show that each hotel was inspected at least once for each year of the Biennium.

It will be noted from this table that the written orders issued in connection with the Hotel Law have been fewer in number than the written orders issued in connection with the so-called Sanitary Law but

the proportion of orders issued to inspections made has been greater in the former case than in the later. In fact there has been more than double the number of warning notices necessary in proportion to hotels inspected as there has been such warnings necessary in connection with food establishments in general. This is accounted for by the fact that up to the present Biennium no thorough and rigid inspection of hotels had been made due probably to the fact, that the Hotel Law until July 1919 did not provide an effective penalty for transgressors. Compliance has been made with practically every written notice issued and prosecutions have been very few in number. Several hotels have been closed, some of them having reopened after complying with the terms of the order issued. A few in the State are closed at the present time owing to failure to comply with the provisions of the law.

While this report shows progress in hotel inspection much work still remains to be done. It will be the plan of this Bureau to have at least two annual inspections of hotels during the next Biennium instead of one. Much of the work in connection with registered hotels is not entirely satisfactory owing to the impossibility of more frequent inspection and supervision of these establishments. This, however, would entail an increase in the number of inspectors and add materially to the cost of this work.

### COMMERCIAL FEEDING STUFFS

This law regulates the sale of all concentrated feeds used by owners of stock for feeding purposes. All concentrated feeds are required to be labeled with the name of the brand, the net weight, the percentage of protein, fat and fiber, a list of all ingredients and the name and address of the manufacturer or agent. It is further required that all concentrated feeds, except bran and shorts, made in Nebraska shall be accompanied by tax tags which are bought at this office at the rate of ten cents per ton.

Inspectors are required from time to time to submit samples of concentrated feeds to the laboratory to see if the analysis checks with the guaranteed analysis declared on the package of feed. They are also required to see that tax tags are affixed to these feeds wherever required and to see that other provisions of the law are complied with. Each brand of feed offered for sale in this State is required to be registered by the manufacturer or agent with this Department, a charge being made for this registration and the registration continuing unless name of the brand or the composition of the feed is changed. The number of samples submitted during the Biennium follows:

Official Samples Collected .....	154
Investigational Samples .....	315

All these samples were analyzed and results have all been compiled. Investigational samples were obtained in connection with concentrated

feeds manufactured in this State, chiefly those of wheat flour by-products.

A considerable number of warning letters were sent where the guarantee did not comply with the findings of the chemist. Only a few prosecutions were filed and these were for flagrant violations. The work possible in connection with the enforcement of this law is directly dependent on the laboratory force available. An analysis is necessary in connection with practically every sample submitted and this takes an appreciable amount of time, so that for effective enforcement at least one chemist should be assigned to this work full time throughout the year. Adequate provision should be made for this necessary help.

### LIVE STOCK REMEDIES

The law relating to live stock remedies is one concerned chiefly with the branding or labeling of all products having medicinal, curative or tonic claims for their ingredients. Each brand of live stock remedy is required to be registered with the Department before being sold and a fee of five dollars (\$5.00) is charged for this registration.

The law requires that each package shall be labeled to show the net weight, the name and address of the manufacturer or dealer, the name and percentage of all diluents or fillers and the name and percentage of all poisonous or deleterious ingredients. Sixteen (16) samples of these remedies have been submitted during the Biennium and seventy-nine (79) remedies were properly registered with this Department during the same period. It should be stated in this connection, however, that registration of these brands is permanent unless there is a change in the manufacture, name of the brand or composition of the remedy and that the majority of all remedies in the Department were so registered at the time the law went into effect in 1915.

No prosecutions were filed during the Biennium in connection with this law. Whenever remedies were found not properly registered or misbranded within the meaning of the law, the dealer was given an opportunity to discontinue the sale of his stock or to conform to the requirements of the law. Most of these remedies are manufactured outside of Nebraska and the manufacturer is beyond the reach of the Nebraska Law. In this connection it was not thought proper to recommend prosecution against a dealer in this State, who had no means of knowing whether or not the preparation he sold was legal, without giving him an opportunity to comply with the law.

A great many complaints are received in connection with live stock remedies, a great majority of which, however, arise from the purchase of remedies manufactured outside of Nebraska and sold directly to the user. It is very difficult, if not in many cases impossible, to secure any legal action against the sale of such remedies. The proper procedure

for Nebraska residents who wish to purchase live stock remedies is to buy from the dealers within this State where they can secure protection.

### PAINT AND LINSEED OIL

This law requires that white lead in linseed oil and ready mixed paints ground in oil shall be labeled to show the list of ingredients with their percentages. The law also requires that raw linseed oil shall be pure as defined by the United States Pharmacopoeia and that boiled linseed oil shall be pure oil heated to a certain temperature before being sold.

The labeling of paints is quite generally complied with and little cause for action has been found in this connection. In regard to boiled linseed oil the law is not deemed quite specific enough and a bill has been introduced seeking to modify this law and strengthen it by providing certain standards for boiled linseed oil. Very few analyses were made during the Biennium for the reasons above given.

In connection with this law it may be added that another valuable substance used in painting is turpentine for which at the present time no standards for purity exist in this state other than that sold in drug stores for medicinal purposes. Since turpentine for technical purposes is frequently subject to adulteration it seemed desirable that some provision to safe guard the purity of this product should be made and a bill has, therefore, been introduced at the present session of the legislature regulating the sale of turpentine within this State and providing standards of purity for gum spirits and wood turpentine.

### COMMERCIAL FERTILIZER

Nebraska until July 1919 had no law on the statute books in reference to fertilizers. Since the introduction of this law fourteen (14) brands of fertilizers have been registered with this Department as required. Only two or three analyses of fertilizers were made during the Biennium owing to the fact that fertilizers are little used so far in Nebraska, also to the fact that laboratory force has not been adequate to assign a chemist to making fertilizer analyses.

### SUMMARY

As may be noted from the foregoing report, the work accomplished in general during the year 1920 has exceeded the work done on the same subject during 1919. As at present outlined the work of this Bureau calls for an increase during the next two years and it is believed that this can be accomplished, particularly, in regard to work of inspection.

In order to increase the laboratory work it will be necessary, as has been pointed out before, to materially increase the staff employed

there. Such laws as the Food and Drugs Act, Commercial Feeding Stuffs, Live Stock Remedies, Paint and Oil and Fertilizer are primarily dependent on the chemist's analysis for their proper and effective enforcement.

Several amendments to the present laws enforced by this Bureau have been introduced during this session of the legislature. It is hoped that these will receive favorable attention as they are designed in all instances to strengthen and support the existing laws so that they may be enforced with fairness to all concerned.

UNIVERSITY OF ILLINOIS LIBRARY

JUL 15 1921





# Bureau of Markets and Marketing

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## ORGANIZATION AND DUTIES

In the organization of the Bureau of Markets and Marketing there was assigned to this Bureau for enforcement the laws relating to Weights and Measures, Agricultural Seeds, Potato Grading and Cold Storage. The Bureau also does a certain amount of educational and research work, such as the collecting of agricultural statistics through data obtained from the county and precinct assessors, the Federal and State cooperative crop reporting and considerable research and investigational work relating to production and distribution of agricultural products.

The laws relating to Weights and Measures and which pertain particularly to the inspection of weighing and measuring devices, the laws providing for the regulation and testing of agricultural seeds and the enforcement of cold storage provisions were formerly enforced by the Food, Drug, Dairy and Oil Commission. It was found advisable that these activities be assigned to the Bureau of Markets and Marketing. Potato grading in car lot shipments at point of origin was first attempted during the period of the world war as a food measure. The 1919 Session of the Legislature passed a compulsory Potato Grading Law but for which no appropriation was made to put the same into effect. By assigning this work to this Bureau it was enforced with very little additional expense owing to the fact that regular employees could supervise the field inspections.

The agricultural statistics of the State were collected in a systematic manner for the first time in the year 1913. These statistics relate to agricultural production as well as census data of live stock on the farm. These statistics are collected by the precinct assessors at the time their other assessment work is done. The crop reporting service is performed cooperatively through Federal and State activities and in this way information is collected relating to the acreage, condition and yield of crops during the year. Most of this information is obtained through a corps of voluntary observers who report monthly on local conditions. The information is tabulated by counties and also summarized for the entire State. Both of the statistical and crop reporting services were formerly conducted by the State Board of Agriculture.

Some of the investigational work carried on by the Bureau has included a comprehensive survey of the cooperative associations in the State. A bulletin has been published on this subject for the year 1919. At the present time material is being collected for the year 1920 and will be published in bulletin form in the near future. This bulletin will be more exhaustive than the previous one, for the reason that additional



information and a more complete analysis of the material is being made. This information is proving of value in the organization of co-operative associations.

Other investigations relating to the production of manufactured agricultural products such as those derived from meat production, the dairy industry, the flour milling industry, sugar beet industry, commercial feeding stuff and others are being made from time to time so that information and statistics will be available on these subjects. In the past the statistics available relating to these industries have been very limited.

During the Fall of 1919 at which time prices were exceedingly high for food products a number of public hearings were held in both Omaha and Lincoln. The intent of these investigations was to determine the exact status of existing conditions with regard to the cost of production cost of distribution and cost to the consumer of different necessary articles of food. A great deal of valuable information was brought out at these hearings and a number of prosecutions were filed but these did not terminate in convictions.

Shortly after these hearings Governor, Samuel R. McKelvie, called a conference of women representing the State Federation of Women's Clubs, the various local clubs and other women's organizations. The consensus of opinion of this conference was to organize a State thrift or economy campaign. Mrs. Evelyn A. Ryan of Grand Island was appointed Director of the Economy Campaign. Shortly afterwards she was also appointed Federal Fair Price Commissioner for Nebraska. This work resulted in an educational campaign of price investigation and to encourage economic and conservative buying.

The food inspectors of the Bureau of Food, Drugs and Oil as well as the assistants of the Bureau of Markets and Marketing assisted in investigating prices of foods and otherwise cooperating with the Fair Price Commissioner during the period of this campaign. This work was also carried on co-operatively with Federal representatives under the provisions of the Lever Act. Later on this activity was discontinued owing to the fact that it was virtually a war or post-war measure.

## WEIGHTS AND MEASURES

The enforcement of the laws relating to Weights and Measures is a sub-division in the Bureau of Markets and Marketing known as the Division of Weights and Measures. In view of the fact that this work consists mostly of the inspection of weighing and measuring devices and being of a technical nature, a separate inspection service is maintained. The men are trained and experienced along mechanical lines and thus competent to make a thorough inspection of the different devices coming to their attention.

The State is divided into a number of territories to each of which an inspector is assigned and is held responsible for the inspection in the territory. An effort is made to inspect once every year the different weighing and measuring devices over which commodities are bought and sold. These inspections do not include railroad track scales for which the State has no equipment.

The inspectors are equipped with one thousand (1000) pounds of heavy test weights consisting of twenty (20) fifty (50) pound units which have been standardized with the standard weights of the State. These are used in making the tests of the heavier type of scales. In addition to these weights they are supplied with weights of lighter denomination and other light equipment for the use of standardizing the lighter type of scales and measuring devices. These men are instructed not to repair scales but in cases where a slight adjustment will make a device register correctly they are authorized to make such adjustment.

A table of tolerances similar to the tolerances adopted by the Federal Bureau of Standards has been adopted for the State and any weighing or measuring device not coming within these tolerances is condemned for use, a condemned tag being placed upon the device prohibiting its use until it is properly repaired. After such repairs or adjustments have been made the owner of the device must notify the Department to the effect that to the best of his knowledge the device is registering correctly upon which a release for the use of the same is granted subject to the repairs or adjustments which have been made. If the owner of a condemned device fails to notify the Department at the end of a month that the same has been repaired and adjusted, the Department sends a notice that the device remains condemned on the records unless advice is sent to the contrary.

In the past few years the automobile truck has come into common use which will necessitate the installation of larger capacity scales than were formerly used. The old type of wagon scales used in the past were usually of about a four (4) ton capacity type, which when used for the weighing of heavily loaded trucks frequently exceeds the capacity of the scale as well as having the tendency to throw the scale out of adjustment. To take care of the heavier loads it will be necessary to replace these wagon scales with the ten (10) ton truck type. This is being done in many sections of the State especially where considerable grain is hauled to the elevators by truck.

In order that a more reliable test may be made for truck scales as well as grain and hopper scales it is essential that the inspectors be supplied with additional test weights. Even with a maximum of five thousand (5000) pounds of test weights in many instances this would be insufficient to provide the proper load approximating the capacity of the scale. For this reason it would be advisable for the Department to secure a number of trucks capable of transporting five thousand (5000) pounds of test weights thus reducing the expense of transporting these

weights by rail as well as eliminating drayage. In addition the truck itself could be used as part of the load in testing wagon and truck scales. In the case of grain or hopper scales it is necessary to increase the load by a number of draughts of grain besides the use of the test weights.

There has been an increasing demand on the part of grain elevator operators that their scales be tested twice a year. Furthermore, that the test be made in such a way that it will meet with the requirements of the Interstate Commerce Commission specifications. If this were done the weights over such scales could be used as a basis of complaints for short weights as compared with the weights at point of destination. If this service is to be rendered, it will be necessary to increase the fees charged for this line of inspection work, especially is this true, as the present fees are insufficient to make the inspection work self sustaining as it defrays only about two-thirds of the expense incurred by this activity.

In most cases when weighing or measuring devices have been condemned by inspectors, it has been a lack of knowledge on the part of the owner that the device was incorrect. There are many devices exceeding the tolerances by over weight or over volume which will bear out this statement. This condition can undoubtedly be attributed to a lack of knowledge as to the construction and sensibility of the device as well as proper care and adjustment of the instrument.

The 1919 Session of the Legislature in amending the Weights and Measures Law also passed a provision requiring all dry commodities to be sold by weight or numerical count. Considerable publicity was given to this new provision of the law and at the present time is generally observed. Whenever violations are found it is usually due to ignorance of this provision of the statute on the part of the proprietor or his employees.

The following table is a summary of the weighing and measuring devices "Sealed" and "Condemned" during the past Biennium:

#### WEIGHTS & MEASURES INSPECTIONS

SEALED	Dec. 1, 1918	Dec. 1, 1919	Total for Biennium
	Dec. 1, 1919 to Dec. 1, 1920	Dec. 1, 1920 to Dec. 1, 1921	
Hopper Scales .....	413	421	834
Platform Scales .....	2,876	3,374	6,250
Wagon Scales .....	1,504	1,966	3,470
Dormant Scales .....	110	86	196
Automatic Scales .....	179	108	287
Counter Scales .....	4,262	5,191	9,453
Stock Scales .....	346	519	865
Total Scales Sealed.....	9,690	11,665	21,355
Weights .....	771	80	851
Measures .....	863	471	1,334
Pumps .....	1,593	1,038	2,631
Slot Weighing Machines.....	177	294	471
Total Inspected and Sealed.....	13,094	13,548	26,642

CONDEMNED	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Hopper Scales .....	4	19	23
Platform Scales .....	106	126	232
Wagon Scales .....	145	181	326
Dormant Scales .....	6	2	8
Automatic Scales .....	6	7	13
Counter Scales .....	454	336	790
Stock Scales .....	77	119	196
Total Scales Condemned .....	798	790	1,588
Weights .....	23	49	72
Measures .....	89	115	204
Pumps .....	54	80	134
Total Inspected and Condemned .....	964	1,034	1,998

### AGRICULTURAL STATISTICS

The statutes provide that agricultural statistics shall be collected by county and precinct assessors at the time their regular assessments are made and this data is then sent to the Department of Agriculture to be tabulated, summarized and analyzed. In many cases this information is very incomplete and as a consequence it is necessary that estimates be made to complete this information. It is essential that more stringent legislation be passed so that these statistics will be more complete and reliable.

The Department is also authorized to gather such other agricultural information as may be deemed of value for public distribution. In pursuance with these requirements this Bureau during the short time which it has functioned has had in charge the issuance of summarized agricultural statistical reports, the dissemination of information pertaining to agricultural subjects in general, and the answering of inquiries relating to these subjects. In this connection considerable investigational work, as applying to cooperative marketing organizations has been conducted and these various activities have received particular consideration.

For ready reference in the answering of inquiries pertaining to agricultural subjects, a filing system for bulletins, crop reports, books, newspapers, etc., has been established together with a corresponding card index file on these subjects. A complete mailing list of agricultural organizations, as well as individuals engaged in various lines of agricultural pursuit, has also been established. All of this reference matter together with a large amount of data relating to agricultural subjects in general has been obtained through questionnaires and personal correspondence and tabulated in index form for use in future publicity and investigational work.

The "From the Farm to the City" movement tendency continues to be one of the urgent present day agricultural problems and special emphasis has been placed on the analysis of this condition and the



results obtained thereby have received widespread publicity. Both the producer and the consumer are keenly interested in cost of production figures inasmuch as this is the basis on which the relative market prices are placed. Authentic data of this kind is continuously gathered and periodically published in order that a more complete understanding of these problems may be obtained.

Questionnaires relating to the production, manufacture and storage of various agricultural products such as dairy products, eggs, meats and cold storage goods, etc., have proven to be a satisfactory means for securing authentic data which is of value to the agricultural interests of this State. Other data relating to the activities of the Nebraska Game and Fish Commission since the time of its organization in 1879 is also being secured and tabulated.

The investigational activities conducted by this Bureau include an extensive investigation of cooperative associations. About five-hundred (500) complete replies in the form of questionnaires have been received, analyzed, tabulated and published in bulletin form. This bulletin accordingly contains information of business value to cooperative organizations and more extensive additional information of this kind is being gathered and compiled at the present time. The following tables show a summary of the questionnaires and an analysis of the concerns that have rendered this information:

#### SUMMARY OF REPLIES RECEIVED FROM QUESTIONNAIRES SENT TO FARMERS COOPERATIVE ASSOCIATIONS

Number of completed questionnaires .....	520
Number tabulated .....	485
Number who returned profits on stock basis only .....	111
Number who returned profits on patronage basis .....	374
Total capital stock, 111 firms (non-patronage) .....	\$ 886,260.00
Total capital stock, 374 firms (patronage) .....	\$ 6,491,886.00
Maximum interest paid on stock, 485 firms .....	20%
Minimum interest paid on stock .....	3%
Average interest paid on stock .....	8%
Total borrowed capital, 111 firms .....	\$ 1,385,481.00
Total borrowed capital, 374 firms .....	\$ 4,358,487.00
Total volume of business, 111 firms .....	\$25,222,665.00
Total volume of business, 374 firms .....	\$87,147,404.00
Maximum interest paid on loans .....	10%
Minimum interest paid on loans .....	5%
Average Interest paid on loans .....	7 1/4 %
Number who have reserve fund .....	369
Number not having reserve fund .....	116
Lowest par value per share .....	\$ 5.00
Highest par value per share .....	\$ 225.00

## COOPERATIVE CONCERNS

(Separated according to commodity handled)

BUSINESS	NUMBER
Elevators .....	250
Grain .....	46
Grain, Flour & Coal .....	34
Grain & Coal .....	75
Grain, Coal & Machinery .....	32
Grain & Live Stock .....	25
Grain, Coal & Live Stock .....	27
Grain, Machinery & Live Stock .....	2
Grain & Farm supplies .....	9
Elevators and Lumber Yards .....	87
Grain, Live Stock, Coal Mch., and Bldg. Material .....	33
Grain, Coal and Building Material .....	54
Elevators and Stores .....	39
Grain, Live Stock, Coal, Machinery & Mdse. ....	34
Grain and Merchandise .....	5
Elevators, Lumber Yards and Merchandise .....	6
Grain, Live Stock, Coal, Mch., Bldg. Material and Mdse. ....	6
Implement House — Machinery .....	7
Creamery — Dairy Products .....	10
Store — General Mdse and Machinery .....	85
Mill and Elevator — Flour .....	1
Stock Yards — Live Stock .....	1
Lumber Yard — Building Material & Coal .....	4
Miscellaneous .....	4

## POTATOES — GRADING OF CAR LOT SHIPMENTS

The Potato Grading Law was enacted by the 1919 Legislative Session and went into effect on July 18th of that year. The Bureau of Markets and Marketing was not organized until the Civil Administrative Code became effective, consequently the Bureau was materially handicapped in perfecting the inspection organization for that season. This work was greatly improved during the present season, and while there is still room for further improvement, the results in general have been quite satisfactory.

Twenty-six (26) inspectors are now stationed at the various principal shipping points and are supervising this work in their respective districts. The inspectors are required to make careful examination by analyzing representative samples from each shipment. A report showing the part of the car from which each sample is taken, the percentage of undersized and otherwise defective potatoes is made, and "Certificates of Inspection" based upon the analysis made and thus establish the grade for each car lot.

It is desirable that amendments be made to the law authorizing the Department to promulgate rules and regulations for the enforcement of this measure. Such provisions would make the law more flexible and also provide for the shipment of seed potatoes or undergrades in years when the potato crop might be of an inferior quality.



Any grades below the established United States Standards should only be permitted in case of emergency as otherwise a practice of this kind would be a direct reflection upon the quality of any potatoes for which a reputation had been established by the industry in the State.

The records on file show that 905 car loads were Grade No. 1 and 813 cars were Grade No. 2 or total of 1718 inspections for the 1919 season. It is estimated that approximately 3000 carload inspections will be made during the 1920 season.

The following table is a record of inspection reports on file January 1, 1921 for car lot shipments made during the present season. It will be noted that up to this time a total of 2022 inspections have been made and that this classification shows 1435 Grade No. 1 cars, 558 Grade No. 2 cars and 17 cars of mixed grades and that out of the total number only 12 reinspections were requested; ten (10) of the original grades were changed as a result of these reinspections.

#### POTATOES — CAR LOT SHIPMENTS — SEASON 1920-1921

(Record of Inspection Reports on file Jan. 1, 1921)

DISTRICT	GRADE NO. 1	GRADE NO. 2	MIXED CARS	TOTAL
Alliance .....	99	79	1	179
Angora .....	2			2
Bayard .....	37	4		41
Belmont .....	5	1		6
Broadwater .....				
Bridgeport .....	1		1	2
Chadron .....		1		1
Clinton .....	44	23	4	71
Crawford .....	1	1		2
Gordon .....	115	111		226
Harrison .....	2			2
Hay Springs .....	59	39		98
Hemingford .....	162	51	3	216
Henry .....	69			69
Kearney .....	272	27	1	300
Kimball .....	35	9	2	46
Lisco .....	6		1	7
Long Pine .....	21	111		132
Marsland .....	33	6		39
Minutaire .....	34	1		35
Morrill .....	171	15		186
Mitchell .....	153	31	2	186
Rushville .....	65	40		105
Scottsbluff .....	44		2	46
Sidney .....				
Yockey .....	5	8		13
TOTAL .....	1,435	558	17	2,010
Reinspections .....				12
Total Inspections, January 1, 1921 .....				2,022

## REINSPECTIONS

Shipping Point	Terminal	Original Grade	Final Grade	Causes
Kearney .....	Omaha	1	0	Scab 2nd. growth, cuts
Kearney .....	Omaha	1	0	Scab 2nd. growth, cuts
Kearney .....	Omaha	1	0	Scab 2nd. growth, cuts
Rushville .....	Omaha	1	2	Scab 2nd. growth, cuts
Rushville .....	Omaha	2	2	Orig. Insp. Sustained
Long Pine .....	Omaha	2	0	Scab 2nd. growth, cuts
Long Pine .....	Omaha	2	0	Scab 2nd. growth, cuts
Alliance .....	Omaha	1	2	Scab 2nd. growth, cuts
Scottsbluff .....	Lincoln	1	2	Heated in Transit
Minatare .....	Lincoln	1	2	Scab 2nd. growth
Hemingford .....	Salem	1	0	Scab 2nd. growth
Minatare .....	Lincoln	1	1	Orig. Insp. Sustained

## COLD STORAGE

The term "Cold Storage" is defined by law to mean the holding of articles of food for more than sixty (60) days at a temperature of forty degrees (40°) Fahrenheit or below. The concerns conducting a business of this kind are required to obtain annual operating and inspection licenses and to make quarterly reports of cold storage holdings to this office. These statements are itemized by lot numbers, units, articles, quantity and entry dates. The law provides a limit of twelve (12) months for holding food in cold storage, unless an extension of time is granted by this Department. In cases where an extension of time on any article is desired the operator is required to make a written request to that effect whereupon an examination of the food in question is made and if found in good condition a short time extension is granted; if conditions do not warrant an extension of time the immediate withdrawal of such foods is demanded.

Inspections of cold storage warehouses are made at three (3) months intervals. The inspector is required to make complete reports relating to sanitation of storage facilities, condition and labeling of food articles in storage and corresponding office records thereof. At the present time thirty-five (35) concerns are licensed to operate cold storage warehouses in this State. Some of the larger plants require as much as two (2) days time for each investigation and inspection.

It is highly desirable that certain changes be made in the Cold Storage Law in order to enable the Department to exercise closer supervision and regulation of this industry. "Cold Storage" should be applied to mean the storing of food articles in a warehouse for over thirty (30) days, under a refrigeration temperature of forty-five (45°) degrees Fahrenheit or below. All goods placed in a cold storage warehouse should be marked with entry dates and if stored for more than thirty (30) days should be marked with dates of withdrawal when released from storage and be plainly labeled "Cold Storage Goods" when placed on the market for sale. The Department should have authority to demand the withdrawal of food which is unwholesome or stored for the purpose of fictitiously increasing prices.

The following table shows a brief summary of the extensiveness of this industry as summarized from the quarterly reports submitted to this office during the past Biennium:

## ARTICLES OF FOOD IN COLD STORAGE

Date	Pickled Meats Pounds	Fresh Meats Pounds	Fish Pounds
Jan. 1, 1919.....	2,141,060	4,745,833	44,473
Jan. 1, 1920.....	1,240,686	8,388,328	180,136
April 1, 1919.....	5,489,883	7,123,695	142,090
April 1, 1920.....	13,249,466	7,344,738	141,728
July 1, 1919.....	1,346,694	3,040,129	157,421
July 1, 1920.....	7,672,175	4,831,912	156,679
Oct. 1, 1919.....	14,426,917	1,729,212	288,051
Oct. 1, 1920.....	3,268,556	2,665,219	112,284

Date	Beverages Barrels	Eggs Cases	Apples Barrels	Misc. Pounds
Jan. 1, 1919.....	416	1,249	32,824	6,489,555
Jan. 1, 1920.....	285	34,965	60,419	4,483,916
April 1, 1919.....	386	4,620	3,152	9,934,344
April 1, 1920.....	348	7,368	17,428	2,171,988
July 1, 1919.....	436	223,564	606	8,559,959
July 1, 1920.....	1,449	169,937	135	4,070,119
Oct. 1, 1919.....	197	159,176	2,492	13,808,391
Oct. 1, 1920.....	208	148,401	246	4,178,513

## AGRICULTURAL SEEDS

The Seed Law provides for the inspection and regulation of the sale of seed in the State and requires the Department of Agriculture to maintain a laboratory where tests are made free of charge for the residents of the State. The seed testing work for the past two years has been of material benefit to the farmer, inasmuch as the greater number of samples tested came from the farmers of Nebraska, and information has been given them direct. In each instance farmers were particularly interested. Furthermore, it has been useful in giving a knowledge of the value of pure and germinable seeds and the information which should be expected from the merchant from whom seed is being purchased.

The purity reports have also given farmers an idea of the weed seeds they are most apt to find in certain commercial agricultural seeds which would mature and be harvested with the crop. Other weed seeds they realize could not be so found unless it was in competition with the crop in the field, and a further study would give a clue to adulterated seeds. When weed seeds or other crop seeds which do not compete and mature with a particular crop are found present, it is an indication that one of three conditions exists:

1. The seeds have been mixed in the cleaning process;
2. Mixed to produce certain grades or so called "brands;"
3. Adulterated with some inferior seed or other material such as inert matter or seed cleanings.

During the early part of the Biennium bulletin No. 101 entitled "Nebraska Weeds" was published by the Department, in which thirty-six (36) of Nebraska's most common weeds and their seeds were described, illustrated by drawings and means of eradication of such pests discussed. There are a few copies of this publication remaining which may be secured by making request to the Department.

During the past two years trade has been re-established with Europe bringing to this country a flood of such seeds as clovers and alfalfa which could not be used there for food and had accumulated in the war torn countries, especially in Italy. Great quantities of such seeds have been sold in this country, often being represented as home grown. Sometimes it has been found to be mixed with home grown seed or seed containing Russian thistle seeds to give it the appearance of being native. This is, however, a great detriment to purchasers who are so unfortunate as to secure Italian grown seed as it is not acclimated to this country and readily winter kills in this latitude.

There has been made 1103 purity and 2642 germination reports on 37 different kinds of seeds with a total of 3745 samples tested during the past two years. The reports sent from the Department to those who avail themselves of the privilege of the free seed tests, give the following information:

1. Percentage of pure seeds
2. Percentage of foreign seeds
3. Percentage of dirt and other inert matter found in the sample
4. Names of weed seeds found in the sample
5. Approximate number per pound of each of the various kinds of weed seeds found in the sample
6. Approximate number per pound of other seeds found in the sample
7. Name of the other seeds found in the sample
8. Percentage of germination of seeds
9. In Alfalfa and clover samples the percentage of hard seeds present.

The following table gives the number of analyses made during the past Biennium:

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Inspections .....	32	1	33
Germination Tests .....	1,586	1,056	2,642
Purity Analyses .....	579	524	1,103
Identification of Plants .....	22	31	53
Identification of Seeds .....	14	11	25
Grand Total .....	2,233	1,623	3,856

## SUMMARY

During the coming Biennium it is the intent to organize the most efficient service to render market reports and information to the public. If possible the arrangement will be on a cooperative basis with Federal Bureau of Markets. In this manner the service would include more general information than if limited to the State alone.

Special investigations relating to marketing problems and conditions will be made from time to time as deemed necessary or advisable. Every possible assistance will be given the producer and consumer in the organization of and operation of cooperative markets and otherwise aid in reducing the cost of distribution of food products.

The Division of Weights and Measures will gradually be supplied with trucks for the transportation of the equipment used by inspectors in performing this work. In this manner the testing of weighing and measuring devices should not only be performed more rapidly but also more efficiently. As mentioned before in relation to this work the amount of test weights have been inadequate to give the proper test to the larger types of scales.

In the potato inspection work it is the intent to perfect this service from year to year so that it will be most dependable and reliable to both grower and dealer. In this manner a reputation will be established for the Nebraska product in any of the larger terminal markets of the country. The establishing and adopting of grades and packs for vegetables and fruits should receive attention and through conferences with growers and dealers should be adopted.

In the matter of agricultural seeds the present law on this subject is not very satisfactory. It is hoped that a new measure will be passed by the legislature which will give more information to the buyer of seeds, as to germination and purity and at the same time be fair to both farmer and dealer. It is hoped that the farmer will patronize the free seed testing service more generally than has been the case in the past. This should be done by the individual farmer or through the county agent.

During the next Biennium more attention will be given to the matter of publicity, especially as relating to the different phases of agriculture and the natural resources of the State. As the Bureau of Markets and Marketing develops it will be the best agency in the State to collect and publish this information. For this reason producers organizations as well as dealers organization should use this bureau as a clearing house for disputes and should rely on this agency for their official information relating to production and consumption.



# Division of Game and Fish

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## ORGANIZATION AND DUTIES

This activity was formerly carried on by the Fish and Game Commission. Under the reorganization the activity was merged with others in the Department and was designated as the Division of Game and Fish. This Division is not classed under a Bureau but the chief is directly responsible to the Secretary of the Department.

In the past the game and fish work was more or less segregated. The game work consisting of the issuing of game licenses and the enforcement of provisions of the Game and Fish Laws were in the direct charge of the Chief Game Warden. The fish culture and distribution of fish was supervised by the superintendent of the Gretna Hatchery. The principal objection to this manner of conducting these activities was that the records relating to the fish hatchery work were not available in a central office. An attempt is being made to centralize this work as much as possible in the office of this Division at the State House. From an economic standpoint it would be a distinct advantage that men trained in the enforcement of these laws should also be trained in fish culture and conservation work so that they may be interchanged from one to the other, in this manner providing permanent employment and securing more highly trained men. It is impossible to secure the services of competent men for short periods of time and if it were such men would not be familiar with the nature of the work they were called upon to perform. This feature has been very objectionable in the past Biennium.

Under the present organization of the Division the following subdivisions have been made:

- Division of Inspection and Control
- Division of Conservation and Distribution
- Gretna Hatchery
- Valentine Hatchery
- Benkelman Hatchery

## INSPECTION AND CONTROL

The inspection and control of this Division consists of the enforcement of provisions of the Game and Fish Laws. During certain periods of the year there are many more violations than there are at other times, this being true during the Spring of the year when the flight of migratory game birds is northward and again for a period of several months before the open season for game birds in the Fall of the year. It is dur-

ing these periods that it is necessary to materially increase the number of Deputy Game Wardens in order that proper enforcement may be obtained.

The number of Wardens in the field have a direct bearing on the number of game licenses issued. For this reason ample funds should be available to thoroughly cover the various sections of the State and with this idea in view numerous attempts have been made to have the fees collected by this Division used for the enforcement and development of the game and fish work.

At other seasons of the year Deputy Game Wardens are used for the investigation of applications for permit to destroy beaver. This is done to ascertain the extent of the damage done and to determine if a permit should be issued. In all cases such permits are issued for a limited period but at the same time the land owner is given an opportunity to destroy a sufficient number of animals so that further destruction may be eliminated.

The following tables give the number and nature of the various violations and the special permits which were issued during the past Biennium:

#### VIOLATIONS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Violations of Migratory Bird Law.....	108	96	204
Hunting without a License .....	38	37	75
Fishing without a License .....	26	139	165
Fishing illegally .....	17	54	71
Illegal Trapping .....	8	17	25
Shooting after Sunset .....	.....	4	4
Grand Total .....	197	347	544
Arrests without Conviction .....	6	9	15
Arrests with Conviction .....	191	338	529

#### PERMITS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
To Destroy Beaver .....	50	82	132
To Transport Beaver Hides .....	1	111	112
To Destroy Muskrats out of Season .....	9	1	10
Scientific Permits .....	19	3	22
Seining Permits .....	4	2	6
Grand Total .....	83	199	282

The number of licenses for hunting and fishing privileges have steadily increased from year to year. This is especially true since a policy of more rigid law enforcement has been adopted.

The following table gives the fees collected during the past Biennium. These fees are deposited in the State Treasury for the School Fund.

## FEES COLLECTED

LICENSES	Dec. 1, 1918	Dec. 1, 1919	Total
	to Dec. 1, 1919	to Dec. 1, 1920	for Biennium
Resident-Hunting & Fishing .....	\$ 48,099.00	\$ 62,427.87	\$110,526.87
Non-Resident-Hunting & Fishing .....	920.00	1,390.00	2,310.00
Non-Resident Fishing .....	872.00	1,048.00	1,920.00
Resident Trapping .....	2,176.00	2,145.37	4,321.37
Non-Resident Trapping .....	10.00	20.00	30.00
Fishing-Missouri River .....	235.10	205.25	440.35
Grand Total .....	\$ 52,312.10	\$ 67,236.49	\$119,548.59

## CONSERVATION AND DISTRIBUTION

During the new Biennium particular attention will be given to the conservation of fish from lakes, ponds and overflows in which the water may become so low at certain periods of the year that the fish will perish unless they are removed to other lakes or streams. This is a very important feature of the conservation work for the reason that large quantities of fish may oftentimes be conserved having a material food value besides providing sport for the licensed angler. During the past year a condition of this kind arose but the funds available were inadequate to properly carry on the work. For this reason it became necessary to resort to volunteer help by way of individuals offering their services in actually seining, sorting and preparing the fish for distribution.

The fish that were conserved in this way were then offered to communities which were interested in obtaining them in car load shipments and usually city authorities or some organization would finance the expense incurred by transportation of the fish car. Under these conditions eight (8) car loads were conserved from the overflows in the lowlands north of Peru. These car lot shipments were distributed as follows:

Carter Lake, Omaha.....	3 car loads
Sand pits in vicinity of Fremont.....	2 car loads
Stromsburg .....	1 car load
Wayne .....	1 car load

The fish consisted largely of bullheads and croppies. The total number and species conserved and distributed in these shipments are as follows:

Rock Bass .....	2,000
Bullheads .....	185,500
Sunfish .....	13,900
Croppies .....	20,000
Black Bass .....	3,000

Total.....	224,400
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While the conservation work was rather limited owing to funds for this purpose, nevertheless, one or two men were stationed in the vicinity

of Carter Lake near Omaha during the summer of 1920, whose duty it was by means of screens to prevent fish from escaping from Carter Lake during the period of floods and high water. As the waters receded many of the small fish in the surrounding lowlands were conserved and placed back in Carter Lake.

### FISH HATCHERIES

There are now three (3) fish hatcheries in the State of Nebraska, In addition to the established stations at Gretna and Valentine the 1919 Session of the Legislature provided an appropriation for the purchase and maintenance of a hatchery in Dundy County. In view of the fact that a hatchery already existed near Benkelman in this County and that the same could be purchased for less money than one could be established, this was purchased for the sum of \$7,500.00. Considerable improvements have been made at this hatchery, the capacity of the ponds has virtually been increased about one-third. The property will have to be fenced and other improvements to buildings will be necessary to place them in good condition.

The permanent improvements provided for by appropriation for the Gretna and Valentine stations by the last legislature have practically been completed. Owing to the high cost of material and labor there was not as much accomplished in repairs to buildings, ponds and improvements to grounds as had formerly been done with similar appropriations for a two year period. At the Valentine hatchery a new pond of about ten acres in area has been constructed and will be available for the coming season. This addition to the pond area at this hatchery will materially increase the production of fish available for distribution.

The distribution of fish is somewhat below the amount distributed in former biennial periods but this is largely due to the fact that the number of pike in the fry stage was not so great because the supply of eggs was not available. As there has been some question as to the future returns of pike being commensurate with actual number planted, this decrease would have very little bearing on the total distribution. It is customary to plant most of the trout, black bass and pike in the fry stage, which is the period when these fish are from two to six weeks old. The results obtained in this way depend largely upon the vitality of the small fish and the conditions under which they are transplanted. Under favorable conditions the number surviving would be much greater than if the reverse were true.

The kinds of fish best adapted to the waters in this State, as proven by experience, are black bass, croppies, perch and catfish. These have been produced in greater numbers than in previous bienniums. The distribution of these together with the fish conserved from overflows will be of material benefit in the permanent stocking of the better lakes and abandoned sand pits which are bound to become a permanent use for fish depositories.



An effort is being made to encourage communities through their councils or through some commercial or social organization to take an interest in having sand pits, from which sand has formerly been taken and which has left these ponds with a good supply of water, stocked with the kinds of fish best adapted for such conditions. In this way the State can stock these pits at very little expense because the fish can be supplied in car lot shipments. These pits make splendid depositories as the depth provides ample protection against the angler taking out fish in great numbers and consequently they will attain greater size. This will not only provide sport and recreation for the public but will eventually add to the food supply which may be derived from this source.

Should the funds be sufficient to extend this development work during the coming Biennium an attempt will be made whereby different communities can cooperate with the State in developing possible nurseries or lakes upon a co-operative basis. The intent would be to have a locality furnish the site and land by possibly deeding it to the State and the Department could then develop the same at a small expense and afterwards stock it with the proper species of fish best adapted to the conditions. There are at this time a number of localities which would be willing to operate under a plan of this kind. The material advantage to be obtained under a plan of this kind would be that the people of the community would be much more interested in developing a proposition of this kind and the State would be assured that the benefits accrued would be of more general interest and the results much more satisfactory than in the past.

The following table gives the distribution of the various kinds of fish from the different hatcheries during the past Biennium:

## GREYNA

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Brook Trout .....	170,300	245,000	415,300
Rainbow Trout .....	159,500	177,900	337,400
Brown Trout .....	10,000	.....	10,000
Black Bass (Large Mouth) .....	47,400	263,400	310,800
Black Bass (Small Mouth) .....	6,000	125,000	131,000
Striped Perch .....	44,800	17,100	61,900
Croppies .....	65,700	75,400	141,100
Channel Catfish .....	18,100	13,820	31,920
Sunfish .....	16,500	34,600	51,100
Rock Bass .....	750	6,400	7,150
Yellow Bullheads .....	133,800	155,050	288,850
Wall-eyed Pike .....	2,100,820	2,000,000	4,100,820
Bull Frogs .....	6,000	32,000	38,000
German Carp .....	22,700	.....	22,700
Buffalo Fish .....	4,100	.....	4,100
Sheepshead .....	1,000	.....	1,000
Goldfish .....	3,060	930	3,990
Grand Total .....	2,810,530	3,146,600	5,957,130



## VALENTINE

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Brook Trout .....	155,000	172,000	327,000
Rainbow Trout .....	150,000	95,000	245,000
Striped Perch .....	79,200	66,450	145,650
Croppies .....	36,400	11,650	48,050
Black Bass (Large Mouth) .....	27,520	9,850	37,370
Black Bass (Small Mouth) .....	2,700	.....	2,700
Sunfish .....	4,700	4,300	9,000
Bull Frogs .....	39,000	.....	39,000
Rock Bass .....	.....	8,600	8,600
Grand Total .....	494,520	367,850	862,370

## BENKELMAN

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Black Bass .....	.....	6,325	6,325
Striped Perch .....	.....	12,200	12,200
Rock Bass .....	.....	500	500
Sunfish .....	.....	9,550	9,550
Croppies .....	.....	200	200
Grand Total .....	.....	28,775	28,775

The public in general seems to be much more interested in fishing than was the case a few years ago. This is undoubtedly caused by the general use of the automobile as the more remote hunting and fishing grounds are now more accessible to the average individual. For this reason it has become necessary that more drastic law enforcement be resorted to in order that the hunting and fishing may be preserved more permanently than could otherwise be done. It is for this reason that a greater number of deputy game wardens will be necessary so that violations will be held at a minimum, in this way the game and fish will be more preserved for future generations but still provide the best of sport in a limited way to the sportsmen of the present day. It may be said that this is being done as the violations, especially as applying to the migratory flight of game birds during the spring of the year, has been materially reduced. Furthermore, that the fishing laws during the summer are being more closely observed and that violations of the hunting laws prior to the opening of the season in the fall of the year are not as prevalent as in the past. Public sentiment is more in favor of law enforcement as relating to the game laws and the violator or poacher is more easily prosecuted than was formerly the case.

## SUMMARY

During the next Biennium a particular effort will be made to conserve in as large quantities as possible, fish from overflows, ponds and streams when these dry up to such an extent, that the fish therein will perish. These fish so taken will then be redistributed to the more per-

manent lakes and streams, thus providing sport to the fisherman and at the same time conserving a product having considerable food value.

Through the co-operation of local communities it is expected to develop the most suitable sites for nursery ponds and other sites possible of development into permanent lakes. The plan would be for the community to donate the site to the State and the State in turn to develop the same and stock it with fish. This plan has been carried out near Royal in Antelope County in establishing a trout nursery pond.

A more rigid enforcement of the Game and Fish Laws must be imposed from year to year in order that the preservation of this natural resource may be more permanent and yet provide the best recreation for hunter and fisherman by permitting him to take game and fish at certain seasons of the year in limited quantities under certain restrictions.

## Clerical and Records Division

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The Clerical and Records Division includes the entire clerical personnel of the various Bureaus and Divisions of the Department. This does not mean that the clerical force in a Bureau is not under the direct supervision of the chief of the bureau but general supervision is provided whereby the chief of the Clerical and Records Division can transfer help from one Bureau or Division to another and in this way take care of increased work in one activity when possibly some other activity has less work than usual. This method has proven very satisfactory and in cases where work is of an emergency nature it is possible to concentrate considerable help on one subject.

While the records of the different activities are closely confined to the specific Bureaus or Divisions, nevertheless, the general bookkeeping, the time and traveling expense of both office and field forces as well as the securing and distribution of supplies is carried on by the Clerical and Records Division. In this way there is more uniformity of printed forms for the different lines of work. The system also provides for the regulating of the inspectors in the various field services as to their routing and checking of the expense incurred in the performance of the field work. This has had a tendency to establish an average expense for the different activities in the field so that they can be compared monthly and this expense held at a minimum.

All supplies needed in the Department are purchased through the Purchasing Agent and funds available for the purpose are encumbered at the time the requisition for supplies is made. The Clerical and Records Division is held responsible to see that these supplies are properly obtained through the Purchasing Agent, that the same are correct when delivered and are also distributed to the various bureaus or individuals as required by them in the performance of their duties. As for the printing, standard forms and form numbers are provided so that whenever a certain form has been exhausted it is an easy matter to know the number that should be reordered for a definite period of time. This practice eliminates waste and prevents the ordering of large quantities of supplies for long periods which may become obsolete before the supply has been exhausted.

This Division is also responsible for the issuing of licenses, certificate of registration and the keeping of all general records of the Department. This work has been standardized in such a way that the forms used for this purpose are similar so that the records can all be easily filed and are thus available for ready reference.

The collecting of all fees for such licenses, registrations and inspections are collected and periodically deposited with the State Treasurer. The Bureaus of Food, Drugs and Oil and Markets and Marketing are self supporting and the fees collected by these Bureaus are appropriated for carrying on the work of these activities during the Biennium.

The following tables include the various licenses and certificates of registration issued and the fees collected during the past Biennium:

### LICENSES AND PERMITS

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Commission Merchants .....	116	132	248
Cold Storage .....	30	31	61
Cold Storage Inspection .....	30	26	56
Creamery .....	70	79	149
Dairy .....	1,463	2,739	4,202
Babcock Test .....	2,441	2,433	4,874
Retail Ice Cream .....	64	64	128
Wholesale Ice Cream .....	58	60	118
Condensed Milk Plants .....	4	5	9
Cheese Factory .....	1	1	2
Retail Oleomargarine .....	2,719	3,041	5,760
Wholesale Oleomargarine .....	26	37	63
Oleomargarine Manufacturers .....	.....	1	1
Slot Weighing Machines .....	177	294	471
Grand Total .....	7,199	8,943	16,142

### CERTIFICATES OF REGISTRATION

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Hotel .....	840	752	1,592
Apartment House .....	131	.....	131
Rooming House .....	582	554	1,136
Restaurant .....	2,191	2,405	4,596
Live Stock Remedy .....	35	44	79
Commercial Fertilizer .....	7	7	14
Hog Cholera Serum .....	21	17	38
Stallion Registration .....	614	739	1,353
Grand Total .....	4,421	4,518	8,939

### RECEIPTS

The Bureau of Food, Drugs and Oil and the Bureau of Markets and Marketing are financed on a fee basis. The legislature appropriating the fees collected or so much thereof as may be necessary for the operation and maintenance of the activities included in these Bureaus.

The following table gives the fees collected by the Department and the source from which the same are derived:

## FEES COLLECTED

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
Babcock Test .....	\$ 4,820.00	\$ 4,792.00	\$ 9,612.00
Cheese Factories .....	10.00	10.00	20.00
Cold Storage Inspections .....	765.00	755.00	1,520.00
Commercial Fertilizer .....	105.00	135.00	240.00
Condenseries .....	40.00	40.00	80.00
Copies of Oil Reports .....	300.00	456.00	756.00
Creameries .....	1,886.00	1,978.00	3,864.00
Dairy .....	1,421.00	2,391.00	3,812.00
Feed Analysis .....	4.00	3.00	7.00
Hotel .....	8,265.10	8,649.00	16,914.10
Interest on Bank Deposit .....	239.32	280.29	519.61
Live Stock Remedies.....	205.00	260.00	465.00
Miscellaneous .....	71.56	218.81	290.37
Oil Inspections .....	122,216.62	136,590.10	258,806.72
Retail — Ice Cream .....	66.00	64.00	130.00
Retail — Oleomargarine .....	3,493.40	3,157.00	6,651.40
Sale of Fish .....	363.70	1,164.83	1,528.53
Stallion Registrations .....	.....	1,721.50	1,721.50
Commercial Feeding Stuff Tax .....	5,921.07	4,907.03	10,828.10
Weights and Measures .....	8,769.01	13,071.50	21,840.51
Wholesale — Ice Cream .....	292.11	300.00	592.11
Wholesale — Oleomargarine .....	708.32	1,075.00	1,783.32
Grand Total .....	\$159,961.21	\$182,021.06	\$341,982.27

## EXPENDITURES

The Bureau of Animal Industry and the Division of Game and Fish have been financed through an appropriation made by the legislature. The following tables give the salary and maintenance expense incurred in the various Bureaus and Divisions of the Department but do not include the money spent for indemnity for diseased live stock or capital outlay for permanent improvements.

## BUREAU OF FOOD, DRUGS AND OIL

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
1. Salaries and Wages .....	\$ 46,558.27	\$ 46,992.98	\$ 93,551.25
2. Expense .....	31,244.90	31,241.02	62,485.92
3. Supplies .....	3,847.49	3,823.13	7,670.62
4. Repairs for Upkeep.....	28.59	42.89	71.48
7. Equipment .....	1,049.48	1,574.22	2,623.70
Grand Total .....	\$ 82,728.73	\$ 83,674.24	\$166,402.97



## BUREAU OF ANIMAL INDUSTRY

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
1. Salaries and Wages .....	\$ 19,944.06	\$ 26,808.74	\$ 46,752.80
2. Expense .....	19,174.43	16,044.95	35,219.38
3. Supplies .....	1,883.64	1,188.85	3,072.49
4. Repairs for Upkeep .....	36.80	55.20	92.00
5. Fixed Charges .....	13,180.20	19,620.32	32,800.52
6. Equipment .....	556.35	834.53	1,390.88
Grand Total .....	\$ 54,775.48	\$ 64,552.59	\$ 119,328.07

## BUREAU OF MARKETS AND MARKETING

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
1. Salaries and Wages.....	\$ 6,845.17	\$ 20,535.49	\$ 27,380.66
2. Expense .....	7,139.24	21,417.73	28,556.97
3. Supplies .....	253.78	761.33	1,015.11
4. Repairs and Upkeep.....	50.00	150.00	200.00
7. Equipment .....	411.96	1,235.89	1,647.85
Grand Total .....	\$ 14,700.15	\$ 44,100.44	\$ 58,800.59

## DIVISION OF GAME AND FISH

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
1. Salaries .....	\$ 19,571.94	\$ 18,464.51	\$ 38,036.45
2. Expense .....	9,555.84	10,664.33	20,220.17
3. Supplies .....	1,860.23	2,045.41	3,905.64
4. Repairs for Upkeep .....	2,532.49	2,574.22	5,106.71
5. Fixed Charges .....	24.00	36.00	60.00
6. Lands and Buildings.....	7,014.04	10,521.05	17,535.09
7. Equipment .....	1,248.35	1,228.11	2,476.46
Grand Total .....	\$ 41,806.89	\$ 45,533.63	\$ 87,340.52

## DEPARTMENT OF AGRICULTURE

	Dec. 1, 1918 to Dec. 1, 1919	Dec. 1, 1919 to Dec. 1, 1920	Total for Biennium
1. Salaries and Wages.....	\$ 92,919.44	\$ 112,801.72	\$ 205,721.16
2. Expense .....	67,114.41	79,368.03	146,482.44
3. Supplies .....	7,845.14	7,818.72	15,663.86
4. Repairs for Upkeep.....	2,647.88	2,822.31	5,470.19
5. Fixed Charges .....	13,204.20	19,656.32	32,860.52
6. Lands and Buildings.....	7,014.04	10,521.05	17,535.09
7. Equipment .....	3,266.14	4,872.75	8,138.89
Grand Total .....	\$ 194,011.24	\$ 237,860.90	\$ 371,872.15

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AGRICULTURE

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STATE OF NEBRASKA  
DEPARTMENT OF AGRICULTURE  
LINCOLN

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# BIENNIAL REPORT

## 1921-1922

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THE SECOND BIENNIAL REPORT  
OF THE  
DEPARTMENT OF AGRICULTURE

---

LEO STUHR  
SECRETARY OF AGRICULTURE



STATE OF NEBRASKA  
DEPARTMENT OF AGRICULTURE  
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## LETTER OF TRANSMITTAL

Honorable S. R. McKelvie, Governor,

Sir:—There is herewith submitted for your consideration and approval the Second Biennial Report of the Department of Agriculture. This Report covers the period from December 1, 1920 to December 1, 1922.

The Report is arranged on the basis of the organization of the Department. Under the captions of the several Bureaus is included a summary of the subjects assigned to each for enforcement. The changes in laws made by the last Legislature, the functioning of the various activities and a summary of the volume of work performed are included under each Bureau.

There is also contained in the Report an abstract of recommendations for the consideration of the incoming Governor and Legislature. These suggestions relate to changes in the law and to the continuation of the present policy for carrying on the work.

The Department desires to express its appreciation of the thorough cooperation received from the Executive and other Departments of State during the biennium.

Respectfully submitted,

LEO. STUHR,  
Secretary of Agriculture.



**EXECUTIVE STAFF**  
of the  
**DEPARTMENT OF AGRICULTURE**  
Leo. Stuhr, Secretary

Bureau of Food, Drugs and Oil -----	Secretary Acting
Bureau of Animal Industry -----	D. D. Tobias, Chief
Bureau of Markets and Marketing -----	W. C. Andreas, Chief
Bureau of Game and Fish -----	G. G. Koster, Chief
Chief Clerk, Department of Agriculture -----	J. W. Mayer

**DEPARTMENT OF AGRICULTURE****General Powers**

Chapter 190, Title 3, Article 1, Session Laws of 1919 provides as follows:

Section 1. **Power enumerated.**—The department of agriculture shall have power:

1. To encourage and promote, in every practicable manner, the interests of agriculture, including horticulture, the live stock industry, dairying, cheese making, poultry, bee keeping, forestry, fishing, the production of wool, and all other allied industries;

2. To promote methods of conducting these several industries with a view to increasing the production and facilitate the distribution thereof at the least cost;

3. To collect and publish statistics relating to crop production, marketing and farm economics, the production and marketing of beef, pork, poultry, fish, mutton, wool, butter, cheese and other agricultural products so far as such statistical information may be of value to the agricultural and allied interests of the State; to co-operate with the Federal Government in the matter of collecting such statistical information. Such department shall include in its publications the reports of agricultural, horticultural and like societies, and of live stock associations. Such published statistics shall be the official agricultural statistics of the state;

4. To encourage the planting of trees and shrubs and the improvement of farm homes generally;

5. To produce and manufacture biological products to be distributed to live stock producers at the actual cost thereof;

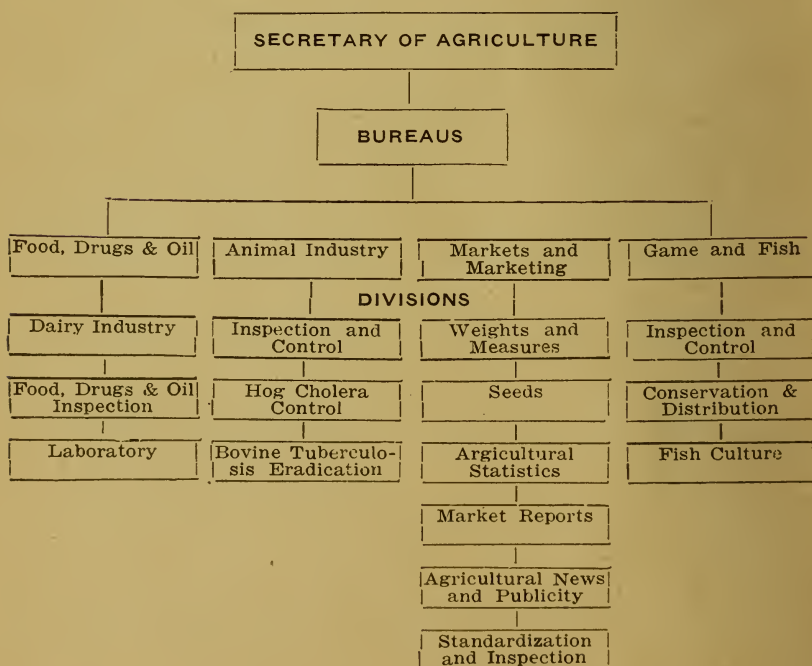
6. To inquire into causes of contagious, infectious and communicable diseases among domestic animals, and the means for the prevention and cure of the same;

7. To take all measures necessary for the preservation, distribution, introduction and restoration of fish, game birds and other wild birds;

8. To see that live stock and stock yards, and other like places where live stock is confined, housed or fed, are properly cared for;

9. To execute and enforce all laws relating to the inspection of foods, drugs, dairy products, oils, commission merchants, cider and vinegar, oleomargarine and butterine, sanitation of premises used for manufacturing and preparation of foods, cold storage ware-houses, paints, seeds, commercial feeding stuffs, live stock remedies, hotels and inns, weights and measures and commercial fertilizers, and from time to time promulgate such rules and regulations and adopt such standards of food products as are necessary and proper to enforce the provisions of this title.

### ORGANIZATION CHART OF STATE DEPARTMENT OF AGRICULTURE 1922



**BIENNIAL REPORT  
OF THE  
DEPARTMENT OF AGRICULTURE**

The two year period covered by this report has been distinguished by the process of economic readjustment which has been in progress. Disturbed and abnormal conditions, the heritage of every great war, mean a trying period of reconstruction for every nation involved—a period of economic warfare between conflicting interests during which many suffer and few are benefited. In the wake of every great crisis follows a period of high prices and business expansion during which extravagance is rife and a false feeling of prosperity, prompted by the circulation of enormous amounts of deflated money, gives people in general and the wage earner in particular, a feeling of financial security which history has shown is never justified. Following this comes a time when economic readjustment must take place—a time when the mass of consumers cannot continue to pay the prices brought about by deflation—and prices again seek a level based on the natural laws of supply and demand. During the two years just passed the country has been suffering from the reaction while business relationships have been slowly adjusting themselves on a basis of soundness.

The reaction, accompanied by the process of deflation, brought with it a decline in prices which had its most disastrous effect on the farmer and his interests. The price of his products declined out of proportion to the price of manufactured articles, reaching a point where the cost of production was not returned. While this was the case with the products the farmer had to sell, he was forced to pay his war time obligations and to buy his necessities with high priced dollars which were difficult to secure. This period of price readjustment has been a difficult time for all concerned and although the individual farmer was dealt the hardest blow the farming interests have weathered the storm with remarkable fortitude.

At the time this report is written farmers are entering upon their third year of low prices, but with a better outlook for the future and a prospect that within a reasonable length of time they will be able to carry on again with a fair margin of profit. Aside from the workings of the natural laws of economics the greatest factor in bringing about this betterment of the farmers' condition has been a realization on the part of the business interests of the country that prosperity could not return in a permanent form without the aid of a prosperous agriculture.

The period of extremely low prices during 1921 and 1922 has made the work of this Department very difficult. In times such as these the administration of laws, however well designed, will not lessen the dissatisfaction and disappointments resulting from chaotic conditions in industry.

In carrying on the work under these circumstances it is but natural that some criticism should have been leveled at the Department. Criticism has been made that unnecessary expense was occasioned by having too great a number of inspectors, and that the same territory was often covered by several inspectors when one would have sufficed. Statements of this nature are made without a true knowledge of the facts. While it is true that several inspectors have covered the same territory, each has been a specialist in his line. It has been demonstrated many times in the past that men of this type will get far better results than men who are veritable "jacks of all trades." The work of the Department is educational as well as enforcing and it is plain to be seen that a man to be valuable must be well informed in his particular field. Much sound argument could be advanced supporting the above contentions but it hardly seems worth while to take up space in reviewing what all thinking persons well know to be established facts.

### Importance of Agriculture

Nebraska is pre-eminently an agricultural state. In total agricultural wealth Nebraska ranks fourth, and in wealth per capita of rural population ranks second only to Iowa. There are 124,417 farms in the state according to the last census, which



produce annually products worth in excess of \$500,000,000.00. Over 50 per cent of the population is engaged in carrying on the work of this great industry. That the products produced by this portion of the people of the state is the creation of wealth from a primary source lends additional importance to the part which agriculture plays in the general prosperity of the state. An industry of such importance deserves fostering and protection to the fullest extent. The farmer's business is subject to uncertainties over which he has no control; in production he must take his chances against the elements; in marketing he is forced to deal with highly organized commercial groups who often seek to prey upon the weakness of his position.

### **Farm Losses**

There are many factors which result in a direct loss to agriculture. It is estimated that insects annually destroy the result of the labor of 500,000 farmers in the United States; to the corn crop alone the loss approximates 100,000,000 bushels. In this state there are pests of various sorts which cause losses of enormous proportions if preventative measures are not devised and put into execution.

Weeds are the cause of lowering crop production from 15 to 20 per cent in many places and the cost of their eradication runs into the hundreds of thousands of dollars.

Animal diseases are responsible for an annual loss of another \$200,000,000.00 in the United States, according to the estimate of government experts. Tuberculosis is responsible for \$40,000,000.00 of this amount, \$50,000,000.00 is charged to hog cholera, while contagious abortion causes an even greater loss.

### **Purpose of the Department**

It is the function of the Department of Agriculture to ward off these losses insofar as it is possible, through the activities of its various bureaus, and to work for the protection and progress of the industry in other ways as changing times and conditions demand.

### **Policy of the Department**

It has been the aim of the Department during the past two years to be aggressive in all its efforts, especially in reference to the eradication and control of plant and animal diseases, and in the building up of other lines of work beneficial to agriculture.

### **Organization Changes**

The plan of organization during the first two years under the Civil Administrative Code included three Bureaus and two Divisions. These were the Bureaus of Animal Industry; Food, Drugs and Oil; Markets and Marketing; the Clerical and Records Division and the Division of Game and Fish.

During this biennial period the Clerical and Records Division has been discontinued and the duties formerly coming under its scope have been absorbed in bureau activities.

During the present year, by reason of the increasing importance of the work in connection with game and fish, the Game and Fish Division underwent reorganization and was placed on the basis of a Bureau. As now organized the Department is made up of the following four Bureaus:

Bureau of Animal Industry

Bureau of Food, Drugs and Oil

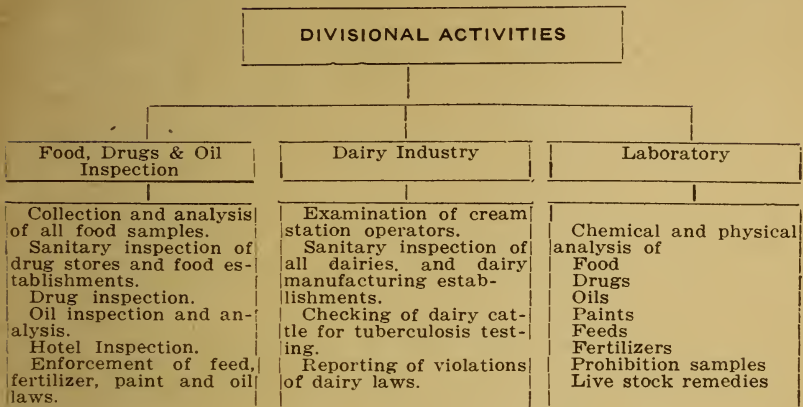
Bureau of Markets and Marketing

Bureau of Game and Fish

### **New Legislation**

During the legislative session of 1921 a number of greatly needed new laws were passed, some giving rise to new activities while others revived work which had been allowed to remain dormant for a number of years past. A few other laws were more or less revised, bringing them up to date and providing for a constructive policy to be carried out in the future.

## BUREAU OF FOOD, DRUGS AND OIL



For the two years ending December 1, 1922, this Bureau has been actively engaged in performing the duties in connection with the laws charged to it for enforcement.

Briefly summing up the function of the Bureau, it may be said the purpose is to furnish protection to consumers of food, drugs and oil against unsanitary and dishonest methods of manufacture and distribution, as well as to protect honest manufacturers and dealers against unscrupulous competition. In addition to this work the Bureau makes sanitary inspections of hotels and restaurants and requires compliance with the law of the state in regard to cleanliness and convenience where it is a matter of primary importance as a public safety measure.

The laws assigned the Bureau for enforcement are administered by means of inspection or analysis or both. The laws are all a part of the criminal statutes and violations are punishable by fines ranging from \$10.00 to \$100.00, or by imprisonment not to exceed 90 days. Prosecution, however, has not been recommended except in cases where extreme measures were entirely justifiable. The revocation of licenses or permits has been found to be a more effective means of carrying out the purpose of the laws. This method has the advantage of preventing the violators from continuing in business whereas the imposition of

a fine would in many cases cause but little inconvenience and not compel a correction of the evil.

A complete report of the activities and progress made under each law during the biennium follows:

## FOOD AND DRUGS

**Changes in the Law.** During the 1921 session of the legislature the law relating to food and drugs was amended in several respects for the purpose of providing a wider range of protection for consumers as well as allowing a more liberal interpretation from the standpoint of the dealer and manufacturer.

Two amendments were enacted, defining misbranding. One of these, known as the "Slack-Filling" clause, declares a food product to be misbranded if the package or container is not completely filled, regardless of whether or not the purported quantity of the contents are stated on the outside of the package. The other amendment in regard to food stipulates there shall be no attempt made at deception through the use of false bottomed or other ill shapen containers, a practice which has been made use of in times past to the gain of the manufacturer and the loss of the purchaser.

A clause providing for enforcement of the above amendments as well as other provisions of the law, gives the Department power to seize for confiscation through a process of libel, any food or drug products offered for sale, and which are adulterated or misbranded within the meaning of the law.

In addition to the above amendments the section of the pure food law relating to the butterfat content in ice cream was altered so that its provisions are not effective where ice cream is sold for consumptive purposes outside of the state. Formerly ice cream manufacturers were compelled to incorporate the same butterfat content for out of state shipment as that offered for sale within this state.

**Purpose.** The law relating to food and drugs prohibits adulteration and defines what shall be considered misbranding. It also provides for plain, honest labeling of all products offered



for sale. Standards for drugs are those laid down by the National Formulary and the United States Pharmacopoeia. Patent or proprietary medicine for which no standards exist, must be sold with full and complete information of an honest nature exposed to the purchaser. Consumers who purchase food and drug articles are in this way not only enabled to exercise their own judgment but are reasonably well protected from dishonest or deceptive practices which might be injurious to health or be the cause of economic losses.

**Operation of Law.** For the purpose of enforcing the provisions of the law the state is divided into ten districts, each of which is in charge of an inspector who is responsible for the details of the inspection work in his district. In addition there are three general inspectors, one of whom is employed in the office to carry on the administrative work in connection with the field activities. The other two general inspectors are not assigned to any particular territory but have special duties assigned them, such as the inspection of food factories, flour mills, bottling establishments, and the investigation of complaints. There is also one drug inspector whose duty it is to inspect all drug establishments for sanitation and check the stock on hand for adulteration and misbranding and investigate complaints which arise from time to time. Each inspector is directly responsible to the chief of the bureau and submits complete reports of all activities. He also forwards samples of food, drugs, remedies and other articles to the laboratory so that an analysis, examination or check may be made.

**Work Accomplished.** It is not possible to report on the amount of work which has been devoted exclusively to the adulteration of food and drugs for the reason that the visits of the inspectors are made in connection with the sanitary inspection of the establishment. Because all establishments handling food and drugs come within the scope of the law relating to sanitation, investigation is always made for that purpose and the investigation concerning the food sold is included in the same report.

The laboratory analyses have covered all classes of food products, drugs and commercial feeding stuffs. The general charac-



ter of the analytical work has been for the most part similar to that of the previous biennium. A larger number of ice cream samples have been analyzed, together with many samples of bottled beverages. These two products, perhaps more than almost any others, require constant attention on the part of inspectors for the reason that the price of butterfat and sugar fluctuate widely at times and during these periods there is always a temptation for manufacturers to alter the quality of the product. Commercial feeding stuffs have also received a large amount of attention during the past year.

Constant supervision and inspection have been found necessary to keep the food and drug supply of the state free from fraudulent trade practices. The economic character of the period has been responsible for a large amount of extra work. As prices have become better adjusted and heavy stocks of war time goods have been reduced the necessity for some of the activities in connection with food and drugs has been removed. Barring unexpected happenings, the next few years should present much less of a problem in this respect than the period which has just passed.

## DAIRY

The Dairy Division consists of seven (7) inspectors. In the selection of these men, special training and natural fitness for inspection work have been the determining features.

**Duties of Dairy Inspectors.** To insure efficient inspection work, the state is divided into seven (7) districts, each district in charge of an inspector, with headquarters centrally located. These inspectors inspect all farm dairies, dairy establishments, creameries, dairy manufacturing plants and supervise and check the accuracy of the work of all cream station operators. The eggs purchased at the cream receiving stations are candled by the inspector at the time of the station inspection. Every dairy inspector is held responsible for the proper enforcement of the dairy law in his district. The inspectors of this division are responsible directly to the general inspector in charge, and are required to submit written reports of inspections daily.

**Dairy Law as Amended.** Prior to 1919 the provisions gov-

erning dairy products were embodied in the Pure Food Law. A **separate Dairy Law** was enacted by the 1919 session of the legislature. One of the most important provisions of this law was the one requiring all milk and cream used for human consumption to be obtained from tuberculin tested cows, or to be pasteurized before being sold. Wherever the milk or cream was sold in that form for human consumption and was the product of a herd of more than five (5) cows, the law required the dairy herd owner to be licensed, the fee for the license being one dollar (\$1.00). This Dairy Law was amended by the 1921 session of the legislature, eliminating the option between tuberculin testing of dairy cows and pasteurization of milk and cream. The present Dairy Law requires tuberculin testing of all dairy cows once a year by a duly authorized veterinarian whenever the product of the dairy cows is sold to be used in that form for human consumption. This law requires that all milk and cream used in the manufacture of butter or other dairy products must be pasteurized before or during the process of manufacture by a method approved by the Department of Agriculture. The present law requires a dairy herd owner to be licensed if he has a dairy herd of twenty-five (25) or more cows and the product of this herd is sold to be used in that form for human consumption. The fee for this dairy license is two dollars, (\$2.00).

The present law requires milk and cream, the source of all dairy products, to be obtained under proper sanitary conditions and to be handled in a sanitary manner from the time of production or manufactured until they reach the ultimate consumer. The annual tuberculin testing of all dairy cows and the sanitary requirements for handling dairy products tends to protect the health of the people, particularly the children. A large part of the time of dairy inspectors has been devoted to activities in connection with the enforcement of these provisions of the law.

**Cream Station Control.** In addition to regulations governing farm dairies, dairy establishments and dairy products, the present law regulates cream receiving stations and cream station operators. Each cream station must be in charge of an operator, licensed by the Department of Agriculture. This license is issued only after the applicant, in the presence of the dairy inspector, has passed a satisfactory written examination and proven

by actual demonstration that he is qualified to accurately weigh, sample and test cream. Examinations are held regularly by the dairy inspectors at twenty-six places throughout the state each month.

These examination points were established after careful consideration of the railroad facilities as well as the volume of cream sold in each locality tributary thereto. The law provides a penalty for testing without a license or manipulation of the Babcock test, and requires stations to be maintained in a clean and sanitary manner.

The towns which constitute the headquarters and examination points as shown on the accompanying map, are given below:

County	Town
Adams -----	Hastings
Buffalo -----	Kearney
Cheyenne -----	Sidney
Cherry -----	Valentine
Custer -----	Broken Bow
Dawes -----	Crawford
Dixon -----	Wakefield
Dodge -----	Fremont
Douglas -----	Omaha
Frontier -----	Curtis
Furnas -----	Oxford
Gage -----	Beatrice
Hall -----	Grand Island
Holt -----	O'Neill
Lancaster -----	Lincoln
Lincoln -----	North Platte
Madison -----	Norfolk
Merrick -----	Central City
Morrill -----	Bridgeport
Nemaha -----	Auburn
Nuckolls -----	Superior
Pawnee -----	Table Rock
Pierce -----	Plainview
Platte -----	Columbus
Red Willow -----	McCook
York -----	York



**Inspection.** The following statistics show what has been accomplished during the biennium:

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Dairy Establishments -----	1,999	1,729	3,728
Cream Receiving Stations -----	2,890	3,219	6,109
Creameries -----	73	62	135
Ice Cream Manufacturers -----	85	80	165
Cheese and Condensed Milk Plants ---	3	1	4
Egg Candling Inspection -----	2,601	3,059	5,660
<b>Grand Total</b> -----	<b>7,651</b>	<b>8,150</b>	<b>15,801</b>
Dairy Notices -----	734	540	1,274

## SANITATION OF FOOD PREMISES

**Scope of the Law.** The statute applying to the sanitary conduct of food premises is wide in its application, including all places where food is sold, prepared or handled in any way. The law is explicit in its requirements and while criticism may be offered that its provisions are too exacting in some instances there is nothing of greater importance to the public at large than safeguarding the food supply by observing the most sanitary condi-



tions throughout the entire passage of food products from the producer to the ultimate consumer.

**Application.** Enforcement of the law must of necessity be accomplished principally through inspection and actual field work. When an establishment is visited a comprehensive report is made covering all phases of the work bearing on sanitation, including instructions regarding any desired changes which in the judgment of the inspector should be made in order that no provisions of the law will be violated. A copy of these instructions is left with the proprietor so that no misunderstanding may arise in the future and be the cause for failure or delay in obtaining correction of objectional features.

**Enforcement.** In cases where the written instructions of the inspector are not obeyed within the prescribed length of time and where the failure to comply is not based on a reasonable excuse, it has been the custom to issue the so-called sanitary orders which are mailed to the proprietor of the establishment by registered mail. These consist of a reiteration of the changes which must be made and provide for a time limit during which compliance must be made to avoid prosecution.

In cases where offenders were subject to circumstances over which they had no control extensions of time have been granted, based upon the merits in each case. In instances where willful disregard or gross negligence has been responsible for non-observance of sanitary rules and regulations there has been a tendency at all times to be less lenient in the matter of allowing tolerance. Failure to comply with the terms of sanitary orders is a criminal offense, the same as violations of the provisions of the sanitary law and are punishable by fines and imprisonment.

**Prosecutions.** During the biennium 65 prosecutions for violations of the sanitary law have been filed throughout the state. This number appears very small when compared with the total number of inspections which have been made. Such is the case because it has been the policy of the Department to give every person or firm ample opportunity to comply with the provisions of the law before filing a prosecution. It is gratifying to note,



therefore, that in most cases the orders of the Department have been complied with and that no further action was necessary.

**Character of Work.** During the past two years the different classes of food manufacturing establishments, including flour mills, bakeries, canning factories, slaughter houses, soft drink manufacturers and many others were given particular attention and most beneficial results were obtained.

During the summer of the present year a special campaign was carried on in connection with the inspection of soda fountains in drug stores and other soft drink establishments. It has been required that hot water be provided for proper washing and sterilization of utensils or that a paper service be used in serving the various drinks and dishes.

The various concessions at the state fair have also received attention and during fair week were inspected with special reference to sanitation so far as this was practical. At such times during a temporary rush of business it is not always possible to observe the usual rules of cleanliness but much good may be accomplished through a concerted effort on the part of all concerned.

In addition to the state fair work, the various county fairs have also been visited and it may be said that this class of concessions is gradually approaching higher standards than were maintained in the past.

**Inspections.** Following is given a report of the number of inspections which have been made of all classes of establishments coming under the scope of the sanitary law during the past biennium. There has been a considerable increase in the number of inspections this biennium over the previous one and this is attributed to the increased efficiency and activity of the inspection service. With the stabilization of economic conditions in the future it is entirely possible that there will not be the need for the same amount of activity in regard to supervision in connection with many lines of products that has been the case in the period just past.

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Groceries -----	5,557	3,450	9,007
Meat Markets and Slaughter Houses--	1,750	1,336	3,086
Bakeries and Confectioneries -----	1,047	762	1,809
Restaurants and Hotel Kitchens -----	3,485	2,875	6,360
Drug Stores and Soda Fountains -----	596	984	1,580
Concessions -----	467	658	1,125
Bottling Works -----	41	59	100
Wholesale Establishments -----	4	7	11
Miscellaneous Food Factories -----	47	22	69
Flour and Feed Mills -----	2	57	59
Reinspections -----	883	2,983	3,866
<b>Grand Total -----</b>	<b>13,879</b>	<b>13,193</b>	<b>27,072</b>
Sanitary Orders Issued -----	862	488	1,350
Prosecutions Filed, -----	194	215	409

## HOTELS

**Provisions of the Law.** In order that there may be a basis for maintaining supervision over the conduct of hotels, rooming houses and restaurants of the state it is required that these places of business shall operate under a license procured from the Department of Agriculture. The law further provides that the conduct of all such places of business shall be in a manner which is consistent with the health, safety and convenience of the guests, including observance of sanitary measures. In order that proprietors of all such places of business might be fully informed in regard to the provisions of the law, a comprehensive set of rules and regulations have been published during this biennium and distributed to every such place of business in the state.

**Enforcement.** Administration of the provisions of the law are made by actual inspection. Every hotel and rooming house has been inspected once annually during this biennium and a large number of written orders have been issued as a result of these inspections. Due to the widely varying conditions of these

establishments the enforcement of a number of the provisions of the law must be tempered with judgment and consideration on the part of the inspectors. In this connection it has been the policy to grant all due allowances and permit lenience so far as local conditions would justify. Where there has been no attempt to remedy conditions which could not be tolerated with respect to the patronage, the license has been revoked and the doors closed until the necessary improvements were made. Two prosecutions have been filed, these being for failure to obtain a certificate of registration.

**Inspections.** Following is shown the number of inspections of hotels and restaurants made during the biennium, together with the number of warning notices issued:

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Hotels -----	1,317	1,125	2,442
*Restaurants and Hotel Kitchens -----	3,485	2,875	6,360
<b>Grand Total</b> -----	<b>4,802</b>	<b>4,000</b>	<b>8,802</b>
Warning Notices Issued -----	253	454	707

\* Already included under summary of inspections governing sanitation of food premises.

## SOFT DRINKS

**Purpose of Law.** The 1921 session of the legislature enacted a law for the purpose of governing the manufacture of beverages commonly known as soft drinks; this law applies to the sanitation of the premises as well as to the character and percentage of the ingredients entering into the composition of the various beverages. The necessity for such a law was made evident in 1920 when it was found that large quantities of saccharine were being used for sweetening purposes as a substitute for sugar which at that time was high in price, and that more attention be given to the sanitary conditions of these plants.

**Provisions of the Law.** All manufacturers of soft drinks

must obtain a certificate of registration from the Department of Agriculture before operating their establishment. This certificate is issued upon proper showing of sanitary conditions and suitable equipment in relation to the proper conduct of the business.

Authority is vested in the Department to issue rules and regulations supplementary to the law, governing the general conduct of these concerns. A certain amount of flexibility is given to the law in this way and it is possible to alter provisions whenever it is found to be in the interest of the public to do so.

**Accomplishments.** A thorough inspection of each bottling establishment in the state has been made since this law went into effect and samples of the finished product have been submitted to the laboratory for analysis. At the time the law became operative it was a common practice for considerable quantities of saccharine to be used for sweetening purposes. A comprehensive campaign was at once instituted to locate all concerns which were following this practice and the results obtained may be judged from the fact that during the present year but one sample has been found which contained this injurious chemical.

During the latter part of 1921 many written orders were issued relating to the improvement of sanitary conditions and in some instances requiring the installation of new equipment in order to make it possible to comply with sanitary regulations. This latter provision applied particularly to the washing of bottles which were returned and which in many instances were not being properly washed and sterilized before being refilled. Beverage manufacturers in practically every instance have complied with the regulations of the Department in a cooperative spirit, with equal benefit to themselves and the consuming public. At the present time the quality and the purity of the soft drinks manufactured in the state are of a high standing, a condition which has been brought about through the operation of the soft drink law.

The analyses made since the law went into effect total 538 samples, coming from every manufacturing establishment in the state.



## GASOLINE AND KEROSENE

**Changes in the Law.** The 1921 session of the legislature passed an amendment to the oil law to include distillation requirements for gasoline. The new standard was based on the fractional distillation of a measured quantity of gasoline, the same as adopted and published by the U. S. Bureau of Mines.

An amendment was also passed at this time requiring all containers of petroleum products to be labeled in a plain legible the occurrence of accidents through showing the contents of containers, and to prevent misbranding.

**Inspection Required.** All gasoline and kerosene shipped into the state and offered for sale, must be inspected by the Department. Upon the arrival of a shipment, the dealer is required to give notification, whereupon one of the regular field men of the Department makes an inspection of the shipment. The specific gravity and flash point is determined for kerosene, and the specific gravity for gasoline.

Wherever there is doubt in the mind of the field man regarding the standard of the oils inspected, samples are forwarded to the laboratory for checking purposes. It may be said here, that no special set of inspectors are employed exclusively for oil work. The same inspectors who perform work in relation to food and sanitation, include the inspection of oil as a part of the regular duties in their respective territories.

**Law Raises Quality.** Whenever a shipment of gasoline or kerosene is found which does not meet the standards, it is rejected by the inspector and not allowed to be sold in the state. As a result of this policy the quality of oils coming into this state is ordinarily above that of adjoining states which do not exercise supervision in this respect. This improved quality is especially noticeable in regard to gasoline which is now quite generally meeting the requirements in regard to the distillation specifications.

**Few Violations.** During the biennium a total of 630 analy-



ses of gasoline were made in the laboratory. These analyses furnished the evidence for filing 67 prosecutions for selling a product below standard. Compared with the total number of inspections it will be seen that this number of prosecutions is relatively very small, indicating that violations are far from being a regular occurrence. No prosecutions have been filed for the sale of adulterated kerosene, but of course the volume of this product handled is of small importance in comparison to gasoline and there is little incentive to practice adulteration.

**Changes in Gasoline Specifications.** Effective December 1, 1922 new requirements applying to gasoline were adopted by this Department. These changes are in accordance with those made by the U. S. Bureau of Mines. By these changes the initial boiling point is lowered five degrees while the temperature at which a 90% fraction must distill is raised ten degrees. The new distillation specifications are as follows:

Boiling point must not be higher than 55 deg. C. (131 Deg. F.)

20% must distill below 105 deg. C. (221 deg. F.)

50% must distill below 140 deg. C. (284 deg. F.)

90% must distill below 200 deg. C. (392 deg. F.)

The end point shall not be higher than 225 deg. C. (437 deg. F.)

Not less than 95% of the liquid shall be recovered in the receiver from the distillation.

All tests shall be made according to the methods for testing petroleum adopted by the Interdepartmental Petroleum Specifications Committee.

**Inspections.** The amount of gasoline and kerosene inspected during the biennium at all points in the state is as follows:

	Dec. 1, 1920 to Dec. 1, 1921 gallons	Dec. 1, 1921 to Dec. 1, 1922 gallons	Total for Biennium gallons
Gasoline -----	88,926,692	95,397,666	184,324,358
Kerosene -----	27,039,390	28,007,647	55,047,037
<b>Total</b> -----	<b>115,966,082</b>	<b>123,405,313</b>	<b>239,371,395</b>

## CIDER AND VINEGAR

**Provisions of the Law.** The statute in relation to cider and vinegar defines what shall be a standard for these products and the manner in which they shall be labeled and branded. The intent of the measure is to not only enable the purchaser to know the nature of the product which is being offered for sale but to prevent the manufacture and sale of products which are in the nature of a substitute or which are injurious in their effect to the health of consumers.

**Activities.** Owing to the shortage of the apple crop in the fall of 1921 there naturally followed a scarcity of genuine cider vinegar on the market. As a result of this situation large quantities of a substitute product, consisting of distilled apple products, were found on the market during the fall and following spring and in many cases this product was being sold for genuine cider vinegar. The consumer at this time was unable to determine the true nature of the article until after the purchase had been made, due to improper labeling being practiced by many manufacturers. Accordingly the Department issued regulations requiring the true labeling of all vinegar made from evaporated apples or from evaporated apple products in order that the consumer might be enabled to purchase the article for what it actually was.

**Prosecutions.** Five prosecutions for violations of this law were filed during the biennium. These were for the addition of coloring matter to distilled vinegar for the purpose of misleading the purchaser into the belief that a genuine cider product was being offered for sale. Many samples submitted by inspectors have been analyzed in the laboratory and while more violations were found than the prosecutions would indicate, the opportunity has been offered in most cases to discontinue the sale of the articles rather than to file action.

## COMMERCIAL FEEDING STUFFS

**Purpose of the Law.** The business of manufacturing the various commercial feeding stuffs has grown to immense proportions in the last few years and the purchase of these feeds is

made on a large scale for feeding various classes of live stock. Due to the possibility of compounding these feeds in a multitude of ways and to the wide variation in the price of the ingredients going to make up these feeds it becomes a necessity that the purchaser may know the feeding value of the product in order to make an intelligent purchase. In order to protect the purchaser it is therefore required that full information be supplied in regard to the product being offered for sale.

**What the Law Requires.** The law defines what shall constitute the various classes of feeding stuffs used for stock feeding purposes. It requires that each feed shall be properly labeled, giving the name of the brand, the net weight, the minimum percentage of fat and protein, the maximum per cent of fibre, and the name of the various ingredients, together with the name of the manufacturer, dealer, or agent and their addresses.

All commercial feeding stuffs, with the exception of bran and shorts manufactured within the state, when offered for sale must also have attached tax stamps purchased from the Department at the rate of ten cents per ton of feed sold. Each brand of feed must be registered giving the name of the brand and its guaranteed analysis. Brands are not required to be registered annually but remain in force continuously unless the name of the brand or the composition of the feed is changed.

**Feeds Registered.** During this biennium the number of feeds registered has reached a total of 262. This includes commercial feeds of every description and for all classes of live stock. While some brands are being discontinued from time to time there is a tendency for the number to be increased as the manufacture of commercial feeds is carried on to a greater extent.

**Many Analyses Made.** During the biennium 505 samples of feeding stuffs have been submitted to the laboratory for analysis. The major portion of this work has been done during the present year, a part of which time an additional chemist was employed in the laboratory to assist the regular laboratory force.

**Prosecutions.** As a result of the analyses made but one prosecution was filed. This is evidence of the fact that the man-

ufacturers of feeds in this state with very few exceptions are complying with the requirements of this law.

## LIVE STOCK REMEDIES

**Purpose of the Law.** Live stock, like man, is subject to disease and interruption of the normal functioning of the various bodily activities. The proper use of reliable remedies is a means of preventing losses and increasing the profits from live stock activities. The field offered for sale of the various live stock remedies is large and along with the dependable medicinal compounds there appeared remedies of a quack and bogus nature which were offered to the farmer who had no way of telling the value of what he was purchasing until after he had parted with his money. Many of these so-called remedies have no curative or medicinal value, yet they sell for the same price as dependable products. It is for the purpose of stamping out the sale of these worthless compounds and protecting the purchaser that a law relating to live stock remedies is necessary.

**Provisions of the Law.** Each brand of live stock remedy sold in this state must be registered with the Department of Agriculture. Remedies offered for sale must be labeled, showing the net weight, the name and address of the manufacturer, the name and percentage of any poisonous or deleterious ingredient, together with a like declaration in regard to dilutents or fillers. In this way full information is available for the purchaser who may be advised as to the merits or value of the article he is purchasing.

**Field Activities.** A considerable number of samples have been submitted to the laboratory by the inspectors for analysis during the biennium from among the 111 different brands registered with the Department. Three prosecutions have been filed for violations of the provisions of the law.

**Home Remedies Safest.** As usual, a good many complaints have been received from those who made purchases of remedies manufactured outside of the state and which were sold direct to the purchaser by agents or vendors. In such cases the Department is practically powerless to prosecute. In order that purchasers of live stock remedies may avoid being the victims of unscrupulous



dealers or agents no products except those manufactured or distributed by dealers in Nebraska should be purchased. In this way the provisions of the law must be complied with and in case of violations the offenders can be penalized. In order to promote greater merit and higher quality for products of this kind, it would undoubtedly be advisable to develop standards which would be an additional safeguard to the purchaser.

### **PAINT AND LINSEED OIL.**

**Provisions of the Law.** This law defines paint as being white lead, basic carbonate, or sublimate in any kind of oil or any compound intended for use as paint whether mixed or unmixed. Raw linseed oil is required to conform to the standard defined by the U. S. Pharmacopoeia, while boiled linseed oil shall be that heated to a certain temperature before it shall be known as such.

Everything in the way of paint offered for sale in this state must be properly labeled showing the ingredients and their percentages, together with the name and address of the manufacturer. Paints composed of other ingredients than pure white lead and linseed oil may be offered for sale but in all cases labelling must be true and plainly legible. The sale of linseed oil substitutes is likewise permitted when labeled true to composition.

**Inspection.** Laboratory analyses in connection with paint have been practically negligible during the biennium. One reason for this is the fact that the handling of paints and paint materials is rapidly passing out of the hands of drug stores and is being taken over by hardware stores and similar places of business. Inasmuch as the drug inspectors of the Department are not empowered to visit places other than drug stores, much of the paint handled within the state is therefore not subject to their inspection. From the activities in the past and from the information gained from the paint which does come under inspection it is known that the paint manufactured in this state as well as that coming in from outside of the state is generally in compliance with proper labeling.

### **COMMERCIAL FERTILIZERS**

**Provisions of Law.** The law relating to commercial fertilizers is comparatively new upon the statute books inasmuch as



the manufacture and sale of fertilizers is not of considerable importance, due to the fact that only limited quantities are used by the farmers of the state.

It provides for furnishing the purchaser with full and complete information regarding the guaranteed analysis as to ingredients and percentages, together with the name of the brand, the location and name of the manufacturer or his principal office. Each brand of fertilizer sold in the state must be registered with the Department. At this time there are eight such brands registered.

**Use Limited.** The use of commercial fertilizer on Nebraska soil has not been recognized as a necessity and consequently has been but sparingly used. It is for this reason that most of the product manufactured is sold outside of the state. Very few analyses have been made in the laboratory since the law became operative. It can be said however, that the fertilizers manufactured in the state are of a very high quality.

## TURPENTINE

**Purpose.** Prior to March 1921 Nebraska had no law on the statute books in reference to turpentine. This law provides a standard of purity and requires proper labeling which shall show the true nature of the product. Imitations or substitutes must be stated in such terms when offered for sale.

**Operation.** Since the law went into effect a considerable number of samples have been tested in the laboratory but as with paints, a great deal of turpentine is sold by other concerns than drug stores and consequently is missed by the drug inspectors. The laboratory force has been inadequate to handle an increased amount of work and the activity in connection with turpentine has not been given special attention.

## PROSECUTIONS

The prosecutions made during the past four years for violation of the laws administered by the Bureau of Food, Drugs and Oil, are shown below. It will be noted that for the biennium just past there was a decrease in the number of prosecutions under the

Pure Food Law, while there was an increase of those in relation to food sanitation, the dairy industry and gasoline.

	1919	1920	1921	1922
Pure Food Law -----	68	75	39	34
Sanitary Food Law -----	7	29	43	22
Dairy -----	22	48	82	69
Gasoline -----	1	8	21	46
Livestock Remedy -----			1	2
Commercial Feeding Stuffs -----				5
Vinegar -----				5
Hotels and Restaurants without License			1	1
<b>Total</b> -----	<b>98</b>	<b>161</b>	<b>188</b>	<b>*179</b>

\*Prosecutions to December 1, 1922.

### LABORATORY DIVISION

**Chemical Analyses.** The purpose of the chemical laboratory of the Bureau is for determining the composition in order to detect adulterations, and to make a physical examination as to the labeling and net weight requirements provided for by statute. The official samples analyzed in the laboratory are collected by representatives of the Department who may be territory inspectors or men assigned to special investigations. In cases of minor violations it is the policy to send a warning letter to the manufacturer, or dealer, calling attention to the nature of the violation and requesting that any irregularities or objections may be overcome. In cases of continued violations or those of a more serious nature the laboratory report of analysis frequently forms the basis for an information for prosecution.

**Gasoline and Kerosene.** During the past biennium and especially the current year, particular emphasis has been placed upon gasoline and kerosene analyses. Under the provisions of the Oil Law it has been necessary to collect a large number of samples for distillation in the laboratory in order to check the oil being sold in the state and to ascertain if the product was meeting the specifications provided for by statute. Because the gasoline specifications for the state differed from those of the surround-

ing states it was necessary for the refiners to manufacture a product which would meet these requirements in Nebraska. It may be said that in a general way the violations were comparatively few and that the consumers obtained a very high quality product.

**Soft Drinks.** Under the provisions of the law relating to soft drink manufacturers passed by the 1921 session of the Legislature, it was found necessary to make a very thorough investigation not only of the equipment and sanitary conditions of these establishments but to take samples of the various products manufactured by each plant. In view of the fact that it is a common practice to offer a great many different flavors of soft drinks by each manufacturer, the number of samples from this source was comparatively large. The importance of a high standard for soft drinks was essential following the war period during which time these products had become inferior in quality due to the difficulty of obtaining flavoring extracts and sugar for their manufacture. This resulted in the use of various substitutes some of which, such as saccharine, are recognized as being injurious to health. The result of the investigation proved conclusively that a much higher standard for soft drinks was being maintained the past biennium.

**Commercial Feeding Stuffs.** The Commercial Feeding Stuffs Law is of considerable importance, due to the fact that this product is extensively used by dairymen as well as other livestock dealers. The feeding value of the commodity depends upon the ingredients it contains, and bears a direct ratio to the price which should be paid for it. This being the case, it is essential that the purchaser know the feeding value of the commodity so that it may be compared with the price at which it is sold. This subject becomes of greater value during a period when feeding stuffs are comparatively high at which time adulterants may be used and a tendency may prevail to misrepresent the feeding value of an article of this kind. During the past biennium an additional chemist has been employed part time to analyze a large number of feeding stuffs samples, many of which were collected by general inspectors at the time the flour mills and other feed manufacturing establishments were inspected. The importance of this work is such that it should receive continued attention so

that the quality of these products be maintained at the highest standards.

**Dairy Products.** Since the establishment of the Dairy Division in the Bureau of Food, Drugs and Oil, a great number of the butter fat determinations for the various dairy products have been made by the territory inspectors who in all instances were men familiar with making these tests. This has materially reduced the number of samples that were formerly sent to the laboratory and this plan has been more direct in enforcement by giving the inspector first hand information relative to the sample he was collecting. There have been, however, many samples analyzed in the laboratory which related to other determinations than that of butterfat and in many instances required other methods than those practical for field use. Particular attention was given to a situation which resulted from the practice that many outside manufacturers had been in the habit of sending dairy products, and especially ice cream into Nebraska from states where the butterfat standards were lower than in this state. As a result of this investigation a number of prosecutions were filed against the dealers retailing these products and this immediately reflected on the manufacturer who realized that if he wished to continue to sell his products in the state it would be necessary for him to comply with the standards which were required by statute. Following this action, compliance of the required standards for these products was readily obtained.

### ANALYSES AND EXAMINATIONS

The following table gives a classified list by subjects of the number of different analyses and examinations which were made during the past biennium:

	1921	1922	Total for bien- nium
Beverage—Miscellaneous towns -----	198	427	625
Beverage—Omaha -----	93	77	170
Beverage—Lincoln -----	16	27	43
Cereals—Cereal Products -----	24	12	36
Commercial Feeding Stuffs -----	.....	505	505

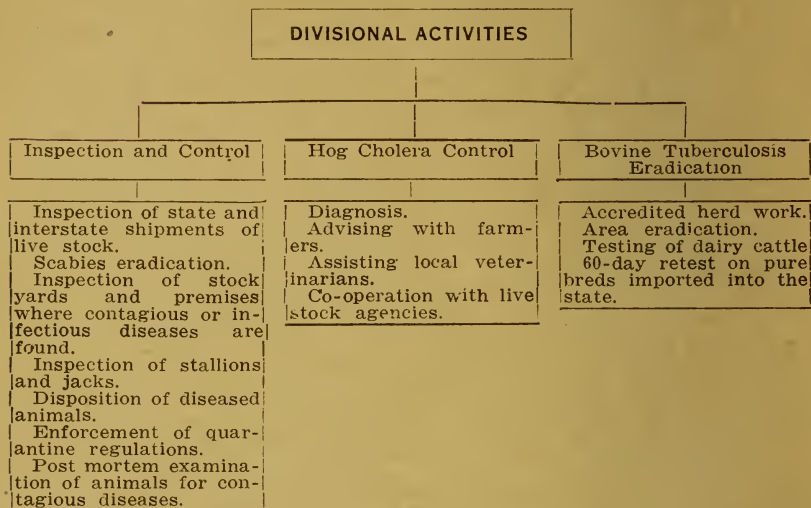


Drugs -----	14	37	51
Dairy Products -----	37	77	114
Edible Fats and Oils -----	10	11	21
Eggs—Egg Substitutes -----	3	2	5
Flavoring Extracts -----	46	41	87
Fruits—Fruit Products -----	43	12	55
Fish—Shell Fish -----	27	12	39
Live Stock Remedies -----	.....	1	1
Milk and Cream -----	114	59	173
Ice Cream -----	118	88	206
Meats—Meat Products -----	77	33	110
Nuts—Nut Products -----	9	1	10
Olives -----	39	12	51
Spices and Condiments -----	23	21	44
Prize Packages -----	23	29	52
Patent and Proprietary Remedies -----	1	.....	1
Pickles -----	12	15	27
Vegetables—Vegetable Products -----	29	14	43
Saccharine Products -----	75	16	91
Teas—Coffee—Cocoa -----	11	5	16
Vinegar -----	2	38	40
Petroleum -----	178	457	635
Paint and Linseed Oil -----	.....	4	4
Jams, Jellies, Marmalades, Preserves -----	10	7	17
Miscellaneous -----	24	18	42
Special Investigations -----	12	.....	12
Special Report on Prohibition -----	35	160	195
Slack Filled Packages* -----	1	.....	1
<b>Total -----</b>	<b>1304</b>	<b>2218</b>	<b>3522</b>

\* Listed under name of subject



## BUREAU OF ANIMAL INDUSTRY



The live stock industry in Nebraska represents an investment of more than \$175,000,000.00 even at the greatly reduced valuation which has existed for all agricultural products for the past two years. The protection of this great industry from the ravages of animal disease is the duty and function imposed by the legislature upon the Bureau of Animal Industry of the State Department of Agriculture. The almost universal prevalence of tuberculosis, together with the constantly recurring outbreaks of other diseases, makes the work of eradication and control of great importance in the prevention of economic losses and in safeguarding the public health by providing meat and dairy products which shall be free from disease carrying germs.

The most extensive activity of the Bureau is that in connection with the eradication of tuberculosis. In carrying on this work during the past biennium the progress has been more rapid and conducive of greater results than for the preceding biennium, due to the larger appropriation of funds and the perfection of a more efficient working organization. The work has made such

rapid progress that even with the increased funds it has not been possible to adequately meet the increasing demand for intensive work among the herds of the state. As a consequence a curtailment of this activity was necessary and finally the cooperative area work was entirely discontinued on November 23, 1922 for lack of funds.

A notable feature of the tubercular work has been the payment of indemnity to owners of dairy cattle reacting to the test under the terms of the Dairy law, since April, 1921. This has made it possible to carry on a large amount of much needed work among the dairy herds of the state.

In carrying on the tuberculosis eradication work and the control of other diseases the Bureau has maintained close cooperation with the Federal authorities. The cooperation of the local practitioners, located throughout the state, has also been a valuable aid in carrying forward the policies and putting into execution the various control measures.

### **TUBERCULAR LIVE STOCK LAW**

**Changes in the Law.** The 1921 session of the legislature passed several amendments to this law. These amendments gave authority to the Department of Agriculture to promulgate rules and regulations for carrying on the work and provided that in-

demnity should be paid for all animals which were ordered slaughtered by the Department as the result of reacting to the tuberculin test. Provision was made that indemnity be paid for animals used for dairy purposes or those being in a herd under federal or state supervision for the eradication of tuberculosis at the time of test. It was also provided that an animal be required to have been in the state for a period of six months before indemnity could be paid for the same.

**Scope of the Law.** Under the provisions of the Tubercular Live Stock Law all of the work in connection with the eradication of tuberculosis is carried on, with the exception of the testing of dairy cattle which comes under the requirements of the

Dairy Law. The actual testing of dairy cattle is performed by authorized local veterinary practitioners who act under the supervision of the Bureau of Animal Industry.

Another provision of the law is that under which the Department may require all cattle shipped into the state for purposes other than immediate slaughter or exhibition purposes, to be subjected to a tuberculin retest sixty days after arrival within the state. This is for the purpose of preventing the introduction of diseased animals from outside sources into areas or herds which may be free or partially so from disease.

**Appropriations.** The appropriation for the tuberculosis eradication work for the present biennium was \$285,000.00. This amount was reduced \$50,000.00 by the special session of the legislature so that a total of \$235,000.00 remained for carrying on this activity. This amount was used for administering the provisions of the act and paying of indemnity for cattle reacting under the provisions of the Dairy Law, which was a mandatory act, and the remainder for carrying on the cooperative work with the Federal Bureau of Animal Industry under the Area plan.

**Payment of Indemnity.** Under the cooperative plan of carrying on the eradication work the Federal government pays dollar for dollar with the state in reimbursing owners of cattle reacting to the test. Indemnity is paid on the basis of one-third the difference between the appraised value and the value of the net salvage, not to exceed in any case \$50.00 for a pure bred animal or \$25.00 for a grade.

When an animal has been found to be tubercular it is tagged and branded as such, quarantine and sanitation measures are prescribed and an appraisement is usually made by the owner and the veterinarian conducting the testing. The reactors are then shipped to slaughter and are sold subject to post-mortem examination by the federal inspectors. The owner is allowed the entire amount resulting from the sale of the carcass. If the carcass is too extensively affected with disease lesions it is condemned and destroyed in which case the net return to the owner will be less than if portions of the carcass were fit for food purposes.

After an animal is slaughtered a salvage report is rendered at once to the Department and when assurance has been given by the veterinarian in charge of the testing that the proper cleaning and disinfecting measures have been carried out at the premises, claim is made for the amount of indemnity due the owner.

**Accredited Herds.** An accredited herd is one in which no tubercular animals have been found on two annual or three semi-annual tests applied by either a regularly employed state or federal veterinarian. This work is carried on where the owner of the herd voluntarily enters into an agreement for the testing of his herd and is a part of the cooperative plan. Upon the completion of the prescribed number of tests without reactors appearing, the owner is furnished with a certificate signed by the state and federal authorities. This entitles him to ship animals interstate for a period of one year without further testing, upon authority issued jointly by the state and federal Bureaus. The United States Live Stock Sanitary Association at its annual meeting in Chicago in 1917 adopted a plan for carrying on tuberculosis eradication work on a cooperative basis between the various states and the Federal government under what is known as the Accredited Herd Plan. Following the action of congress in providing an appropriation for carrying out this plan, Nebraska took the initial steps in August, 1917 toward placing the work on a systematic basis. At that time two state and two federal veterinarians were placed in the field to start the work of organization and eradication. Progress was slow, and at the close of 1918 it was possible to report but ten herds tested. The interest aroused was of more importance than the results accomplished, for the sentiment in favor of extending the work was crystallized during the 1919 session of the legislature when the first state appropriation was made for tubercular work.

From that time forward the funds available for meeting the insistent demand for more extensive activity have not been sufficient. The work of accrediting herds, first confined largely to pure bred stock, extended rapidly to include grades as well, and accredited herds may now be found in every part of the state.

## AREA PLAN

In an effort to facilitate the work of eradication, what



is known as the Area Plan was devised, in order that a great amount of traveling expense might be eliminated, and that the greatest number of animals might be tested in the shortest possible time.

Speeding up the work under the Area Plan was made possible by the use of the intradermal or tail test, which had been found to be thoroughly reliable, and a great improvement over the subcutaneous method which required the presence of the veterinarian during the whole time of the test regardless of the size of the herd.

Where work is carried on over a limited territory in this way the expense of transportation for the inspectors is met by the county officials, usually at the rate of ten cents per mile where the inspector makes use of his automobile, with a maximum mileage allowance of 1000 miles per month. All other expenses connected with the work are met by the state and federal governments.

A township is taken as the unit and work started in that territory when a majority of the cattle owners have signified their desire to place their herds under supervision. While the work is progressing in one township another is being organized so that no interruption may occur in extending the work in the county. Eventually all of the cattle in the county are tested, the pure breeds retested until accredited, and all infected herds placed under quarantine until sanitary conditions have been obtained.

Up to the present time four counties have been completed under this plan. These are Clay, Washington, Sarpy and Douglas in the order named. Work is progressing in 22 other counties which are organized under the Area Plan and rapid progress is being made within the limit of funds provided.

**Clay County First Completed.** In some instances counties have desired an even more intensive plan of testing to cover the area in the least possible time. This plan is known as a drive. The mileage appropriation in these cases has been placed at the disposal of the inspectors without restriction. Additional state



and federal veterinarians are placed in the area and local practitioners are temporarily employed to assist in the work.

Clay county was the first county in the state to take up area work and the first county to be completed under a drive. The salient points in this drive are important not only from the standpoint of results obtained but in showing the interest in the work.

The project was a cooperative agreement between the state and federal officials, the Clay County Farm Bureau and the County Board of Supervisors. Much credit must be given to the Farm Bureau members and officials for their assistance in the organization of committees and in other ways. The precinct committeemen did a valuable work in making the preliminary survey by securing the signatures of cattle owners and later in furnishing means of transportation to the veterinarians when making the tests.

The drive began in February of the present year and was carried to completion during the following April. The entire project was under the direct supervision of a veterinary inspector of the State Bureau of Animal Industry. At various times during the progress of the drive thirteen other veterinarians were employed, among whom were four private practitioners who were temporarily assigned to the work by the state.

This drive resulted in the testing of 1441 herds or lots of cattle, comprising 13,741 animals of which 515 were found to be diseased. The cost to the county was \$793.90 for transportation of the inspectors, or 7 cents per head for each animal tested. The diseased animals were assembled at given points and shipped to slaughter. The infected premises were cleaned and disinfected under the direct supervision of a field man who has been continued in overseeing the work in the county in order that a complete eradication of any remaining infection might be assured.

**Valuable Experience Gained.** Intensive work is conducted much along the same line in the other counties and the experience gained in connection with the drive in Clay county has been of inestimable benefit in the conduct of the work in perfecting an efficient working organization. It proved to be in the nature of a school for inspectors who were enabled to carry the results of their experience to all parts of the state.

**Work Accomplished.** A summary of the tuberculosis activities for the biennium under the cooperative plan, including the Area testing and Accredited Herd work, is shown below:

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Herds Tested -----	4,868	11,232	16,100
Animals Tested -----	86,224	141,865	228,109
Reactors Found -----	2,016	3,341	5,357
Percentage of Reactors -----	2.3	2.3	2.3

**Locating Infection.** The existence of tuberculosis is often discovered on post mortem examination in consignments of cattle and hogs, apparently healthy on clinical inspection. The Bureau of Animal Industry is notified in such instances by the federal inspectors stationed at the packing house where the animals are slaughtered, and the owner is advised of the fact. By this means of locating infection many herds have been placed under test and finally established on a disease free basis.

The following table shows the work done on post mortem inspection at Omaha for the past two year period and the extent of tubercular infection found in the animals slaughtered:

	Dec. 1, 1920 to Dec. 31, 1921	Dec. 31, 1921 to Dec. 1, 1922	Total for Biennium
<b>Cattle</b>			
Number Slaughtered -----	784,932	775,380	1,559,312
Number Found Tubercular -----	8,887	7,335	16,222
Percentage Found Tubercular --	1.1	.94	1.02
Reactors Slaughtered -----	3,235	7,358	10,613
Number Showing Lesions -----	2,938	6,772	9,710
Percentage of Infection -----	90.37	92.03	91.2
<b>Hogs</b>			
Number Slaughtered -----	2,117,514	1,959,660	4,077,174
Number Found Tubercular -----	307,429	330,864	638,293
Percentage Found Tubercular --	13.9	16.88	15.36

## THE DAIRY LAW

**Testing of Dairy Cattle.** Under the provisions of the Dairy Law all cows from which whole milk or sweet cream is sold for consumption as such must be tuberculin tested within one year previous to the time of selling the product. This means that all dairy cows must be tuberculin tested once each year. The law does not require that sour cream sold for manufacturing purposes be required to be taken from tuberculin tested cows. This product, however, must be pasteurized by a method approved by the Department before or during the process of manufacture.

**Testing by Local Practitioners.** In order that the provisions of the Dairy Law relating to the testing of dairy cattle could be carried on in the most practical and expeditious manner, a plan was devised whereby the graduate veterinarians of the state were authorized to perform this work. Application blanks were sent to the veterinary practitioners, giving them an opportunity to become authorized provided they were willing to do the tuberculin testing of dairy cattle within the ordinary radius of their practice for the fees which could be charged for this work by statutory provision. This plan has proven very successful and during the past year 266 veterinary practitioners have been authorized to perform the tuberculin testing of dairy cattle.

Following is shown the testing performed during the biennium:

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Nov. 18, 1922	Total for Biennium
Animals Tested -----	37,968	61,667	99,635
Herds Tested -----	9,187	13,638	22,825
Reactors Found -----	1,051	2,363	3,414
Percentage of Reactors -----	3.6	3.6	3.6

The above report does not include animals tested between Nov. 18th and Dec. 1st of the present year because records are not yet available for this period.

## PROGRESS OF THE TUBERCULAR WORK

It will be noticed in analyzing the summary of the testing work done during the biennium that the percentage of reactors found is on the average, low for both beef and dairy cattle. The reason for the existence of this condition must be credited to the intensive work which has been carried on throughout the entire state insofar as the limits of the appropriation would permit. As a result of these activities Nebraska at the present time occupies a high rank among the various states in regard to the progress made in the eradication of tuberculosis.

The continued payment of indemnity and increased appropriation for the future may be justified by the knowledge that great good has resulted from the funds already expended. It can readily be seen, however, that even with the present favorable condition of the tubercular work there must be a final clean-up or the work which has been done in the past will be lost.

## LIVE STOCK LAW

**Scope of Law.** The provisions of the Live Stock Law authorize the Department of Agriculture to protect the health of live stock in Nebraska, and to employ the most effective methods for the prevention and eradication of contagious and infectious diseases. Under the provisions of the Live Stock Law the Department is vested with the power and charged with the duties of "protecting the health of live stock in Nebraska, of determining and employing the most effective means for the prevention and eradication of contagious diseases, of quarantining when necessary, and of regulating the arrival into, and departure from, and movement within the state, of animals infected or exposed to infection or contagion."

**Investigation-Penalty.** Under this authority numerous complaints are received, relating to suspected contagious diseases in live stock. In each instance investigations are made by the regular veterinary inspectors most available to the point from which the complaint arises. This work is usually carried on in connection with the regular tuberculosis eradication work and investiga-



tions are made by the men assigned to this activity. Frequently it is necessary to make a special investigation and in that case a veterinary inspector is assigned who is most familiar with the nature of the complaint. By this system of immediate investigation it is possible to prevent serious outbreaks of contagious diseases and to apply drastic measures such as quarantine, if it is deemed advisable to do so.

Harboring or selling an infected animal or violating quarantine regulations are considered violations of the law. A penalty of not less than \$50 or more than \$1000 is imposed, upon conviction for each offense.

**Enforcement.** Enforcement of the provisions of this law is accomplished by education, by assistance in diagnosis, by insistence upon quarantine measures and by a careful administration of the Serum and Virus Law. The Bureau has found a gratifying spirit of co-operation among stock owners and prosecutions have not been found necessary for the enforcement of the law during the biennium.

Some of the activities carried on pursuant to administering the provisions of this law are briefly dealt with in the following paragraphs, under the captions of the most important diseases occurring among the live stock of the state.

## HOG CHOLERA

The last session of the legislature provided an appropriation of \$15,000.00 for the control of hog cholera in the state. During the year 1921 several men were delegated to do investigational work and advise with live stock owners relative to preventing and controlling this disease. A cooperative agreement between the federal Bureau of Animal Industry and the state was a part of the plan for carrying on this work. The demand on the part of swine owners for control measures gradually decreased as preventative measures checked the disease, and during 1922 cooperative work for the control of hog cholera was reduced to a minimum. It was found that the limited amount of hog cholera work needed could be taken care of by the regular veterinary inspectors who were engaged in tuberculosis eradication work or by men employed for the investigation of special complaints.



Successful breeders now consider immunization against hog cholera by means of vaccination as one of the routine tasks of swine raising, and more attention is being given to sanitation of premises and to the prevention of infection.

**Present Plan Satisfactory.** There seems to be little sentiment in favor of carrying on investigational work by salaried employees at a time when there is no prevalence of the disease. The present plan is satisfactory and it is questionable if it is necessary to provide a special appropriation for this activity. The organization consisting of the federal and state veterinary inspectors, together with authorized veterinary practitioners, constitutes a sufficient force to care for any emergency which may arise relating to cholera.

**Constant Vigilance Necessary.** The greatest danger from this disease at the present time lies in the possibility of over-confidence on the part of swine owners. The absence of infection tends to establish a feeling of security which may lead to laxity in the observance of sanitary and immunization precautions. Successful swine raising will continue to require the exercise of constant attention to the proper use of preventative measures.

**Work of Biennium.** The following is a brief summary of the work done under direct supervision of the Bureau during the biennium.

	Dec 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Number of Animals Vaccinated --	30,593	33,684	64,077
Number of Herds Vaccinated----	408	353	761
Special Investigations -----	57	25	82

## SCABIES

This infection, which was very prevalent in Nebraska grazing districts a few years ago, and against which a relentless campaign has been waged, is now well under control. Its eradication is still a project of this Bureau but the cases of infection are comparatively few so that but few veterinarians have been assigned to handle the work.

**Small Organization Necessary.** Due to the constant shipping and interchange of cattle for grazing purposes there is always a

possibility of this disease appearing. In order that the first infection may be detected and dealt with promptly, it is necessary that a few trained inspectors be on duty at all times. All cattle on arriving at public stock yards are inspected for indications of infection. Whenever a consignment of cattle is found to be infected at the time of arrival the Bureau is notified. The premises from which the cattle were shipped are placed under quarantine and all cattle remaining on the premises are required to be dipped under proper supervision.

Infected areas are attended to as thoroughly and as expeditiously as possible. The cattle within the area are dipped and all possibilities of infection are eliminated as rapidly as the work can be accomplished.

### SARCOPTIC SCAB

During the past biennium several cases of sarcoptic scab have been found, quarantine was immediately established animals dipped and the premises cleaned up, with the result in each case that the disease was arrested without further extension of the infection. Sarcoptic scab, due to the nature of the parasite causing the infection, is much more difficult to eradicate than the common variety. Several dippings are required, with longer periods of immersion, to bring about a cure. The two dips commonly used for the treatment of scab are lime and sulphur, and a concentrated nicotine dip, which are diluted to the proper proportions in the vat and heated to make them more penetrative and effective.

**Results of Activities.** A record of the work accomplished under supervision of state and federal inspectors during the past biennium is set forth in the following table:

	Dec 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Herds Inspected -----	1,961	1,466	3,427
Animals inspected -----	500,985	276,978	777,963
Infected and Exposed -----	214,127	113,926	328,053
Free -----	286,858	163,052	449,910
Animals Dipped -----	262,256	203,994	466,250
First Dipping -----	166,281	124,108	290,389
Second Dipping -----	95,975	79,886	175,861

**ANTRAX**

The northeastern counties of the state, especially those adjacent to the Missouri river, have been the scene of most of the anthrax infection for the past several years. During the past biennium, however, very few cases have been reported, and some of these upon diagnosis proved to be a disease other than anthrax. Because of its communicable nature and high mortality rate, no time has been lost in making a full investigation of each case reported.

**Quick Action Necessary.** An inspector especially qualified for the diagnosis of anthrax has been retained for the purpose of doing general work in the area where this disease is most likely to appear and this has made it possible for all investigations to be made on the shortest possible notice. Where the disease was found to be present, quarantine measures were instituted to prevent infection spreading to other herds.

In making post mortem examinations on animals which succumbed and where the inspector is in doubt as to the true nature of the disease, specimens are forwarded to the well equipped Animal Pathology laboratory of the State University where an analysis is made and the findings furnish the basis for intelligent action without delay.

**Preventative Measures—Treatment.** The anthrax germ has great powers of resistance and may lie dormant in the soil of infected premises almost indefinitely, withstanding the extreme changes of temperature, only to become active under favorable conditions. It is, therefore, of the greatest importance that sanitary measures be observed in controlling this disease, together with tilling and drainage of low, wet areas, changing pastures and burning diseased carcasses.

In the treatment of anthrax a vaccine containing the germ is used, and while effective, should be made use of only on premises where the disease is already in existence. It is thought that with the proper cooperation between live stock owners and the state officials anthrax in Nebraska can be reduced to the point of complete eradication within the next few years.

## HEMORRHAGIC SEPTICEMIA

This disease causes a considerable loss to cattle owners in Nebraska each year. Before any symptoms of a serious nature are noticeable the disease may have gained sufficient headway to result in more or less extensive losses. A common source of infection is the public stock yards where thousands of cattle of all conditions come into close contact and a few diseased animals expose all others.

**Sources of Infection.** Stocker and feeder cattle as a rule are more likely to be found infected with hemorrhagic septicemia than dairy stock because they are transferred oftener and are more frequently turned into public yards. After becoming infected in the yards they carry the disease to farm premises and unless prompt measures are taken to check and control the disease, great losses are almost certain to be the result. Infected animals which do not die are generally left in so depleted a condition that their return to a normal health is likely to be accomplished at large expense.

**Treatment.** Separation of the sick from the apparently healthy animals is the first precaution to be observed. Treatment consists of the injection of bacterins. The beneficial results of this treatment are disputed by some pathologists but according to observations made by this Bureau the use of a biologic has proven very satisfactory and its use is unhesitatingly recommended.

## NECROTIC ENTERITIS

This is one of the most troublesome diseases known to swine raisers. It is either found alone or in association with hog cholera, the latter combination proving difficult to overcome except by skilled treatment. A veterinarian should be promptly consulted and his advice followed by the man who finds the disease in his herd.

The most damage is usually done among the young stock. Affected animals lose appetite, become gaunt and emaciated and after a few days many of them die. Those which recover are never rugged and prove unprofitable to keep. This disease causes a loss of thousands of dollars each year to Nebraska hog raisers, yet it is easily diagnosed, and if given prompt attention responds



readily to curative measures. The treatment consists mainly in the use of intestinal antiseptics and in providing sanitary surroundings.

**Control Measures.** In its effects for the control of this and other swine diseases this Bureau has endeavored to emphasize the fact that nearly every disease to which hogs are susceptible thrives in unsanitary surroundings. Hog raising is not a hazardous undertaking, as it is often regarded by some stockmen. By observing a few of the rules of sanitation and other means of proper care for the hog, the long established reputation as a mortgage lifter will not prove amiss. Immunization against cholera should be a regular practice. Clean, dry and sunny quarters should be provided, with abundance of clean water for drinking. Filthy wallows should not be allowed to exist and the stock should occasionally be changed to new areas, while the old quarters are cleaned up by cultivation and cropping.

## GLANDERS

This disease, which was very common among horses and mules a few years ago, was much dreaded because of its incurable nature and because it was communicable to man. Cases of glanders are so rare in these days that it is commonly spoken of as being practically eradicated. Its treatment has required a very small amount of attention by this Bureau. An occasional case has been reported which was promptly dealt with. In practically every case it was found that the animal has been driven across the state line and in this way escaped inspection requirements.

**Few Cases Found.** The Mallein test which is applied in the same manner as the tuberculin test, has made it possible to detect affected animals where a clinical inspection would have shown no symptoms. In the few cases found, the diseased animal has been disposed of and the premises have been thoroughly disinfected. The prompt action taken by all officials responsible for live stock sanitation and the strict enforcement of regulations governing transportation have resulted in the almost complete eradication of this disease.



**SERUM AND VIRUS LAW.**

**Provisions of the Law.** The most important features of the Serum and Virus law, passed by the last session of the legislature, are the requirements that every manufacturer of serum or virus make application and obtain a permit from the Department of Agriculture and must register every brand of serum or virus which he expects to sell in the state under the permit. The Department has also insisted that copies of all labels used for each brand be filed at the time the application is made.

It is provided also that a bond of \$5000.00 issued by a surety company authorized to transact business in this state, must be furnished before a permit will be issued. These bonds remain in force for one calendar year, expiring on December 31, and must therefore be renewed the following year.

The law prescribes what shall be deemed impotency and avirulence, provides for complete and accurate labeling of containers and fixes a penalty for any violations of its provisions.

**Higher Standard Products.** It has been possible to keep a close check on the manufacturers selling serum and virus in the state and the effect has been to raise the quality to a much higher standard than ever before. In order that this high standard of potency may be maintained federal supervision is exercised in the manufacture of these products.

During the present biennium the following number of permits were issued:

1921	1922
<hr/>	<hr/>
29	33

**TUBERCULIN LAW**

**Provision.** This act, passed by the 1921 legislature, makes it unlawful for anyone to inject tuberculin into any meat animals for any purpose other than for the diagnosis of tuberculosis. It defines the term "tuberculin", gives the Department of Agriculture power and authority to regulate the sale of tuberculin within the state and fixes a penalty for violations of the act.

**Purpose.** The purpose of the law is to discourage certain abuses of the use of tuberculin which have become more or less common to the live stock industry, and to protect the users of tuberculin against preparations which are not reliable. Considering the large amounts of tuberculin being used in connection with tuberculosis eradication work the provisions of the law are very important.

**Abide by Provisions of the Law.** The Department has not found it necessary to promulgate regulations governing the sale and distribution of this bacterin. All parties concerned in the manufacture and handling of tuberculin have shown a desire to abide by the provisions of the law and the amount of poor quality product on the market is negligible.

### STALLION REGISTRATION

**Provisions of Law.** This law provides that every stallion and jack shall be examined between the ages of two and three years and again between the ages of five and six years. An inspection fee of \$3.00 is charged at the time of the first inspection. For the years intervening between the first and second inspections, a dollar fee is charged for which a renewal certificate is issued. On payment of the regular fee of \$3.00 a life certificate is granted at the time of the second inspection.

**Local Inspectors Satisfactory.** Arrangements have been made by this Bureau with local authorized veterinarians to inspect stallions and jacks in their respective territories, receiving in return the regular inspection fee charged for their services. This plan is more satisfactory and economical than the system by which veterinarians were employed on full time to carry on the work.

Although the number of stallions and jacks is not increasing in the state the standard is being steadily raised and there is an increasing demand for the services of healthy and well bred sires. This fact makes stallion inspection as important as at any previous time and careful administration of the law is therefore necessary.

Inspections for the biennium are given below :

	Dec 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Pure Bred Stallions Inspected _	215	177	395
Grade Stallions Inspected -----	39	36	75
Jacks Inspected -----	183	75	258
Certificates Issued -----	437	288	725

### SANITATION AND DISINFECTION

**Importance of Work.** No small part of the work done in connection with live stock disease control has to do with sanitation and disinfection. Very little can be accomplished in attempts at eradication of infections unless premises are properly cleaned and disinfected after the diseased animals have been removed. Excluding the affected individuals and leaving the infection on the premises means an almost certain outbreak of the disease later.

By educational measures and other means the Bureau attempts to fulfill the purpose of the live stock laws in this regard. Disinfection work is done under expert supervision which gives assurance to the live stock owner that all possible measures have been taken to give his animals proper protection.

**Accomplishments.** A record of the work accomplished in this line of effort during the biennium is shown in the following table :

	Dec 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Cleanings and Disinfections ----	246	1,080	1,326
Number of Inspections -----	127	165	292
Disinfections :			
Premises -----	536	2,000	2,536
Stock Yards -----	80	112	192
Cars -----	314	42	356
<b>Number of Disinfections -----</b>	<b>930</b>	<b>2,154</b>	<b>3,084</b>

## SPECIAL INVESTIGATIONS

**Work of Inspectors.** The inspectors working under the direction of this Bureau are located in various sections of the state and are assigned to certain projects. However, their services are available at any time for special investigations, as necessity may demand. A great amount of special work is done by these inspectors aside from their regular duties.

During a twelve month period thousands of cattle, hogs and sheep are inspected for slaughter and inspected again on post mortem examination under federal supervision, at the various live stock centers. On finding evidence of contagious disease, ownership of the diseased animals is established and this office is notified. An inspector is sent immediately to the owner's premises and the necessary control measures are inaugurated.

**Local Practitioners Cooperate.** Licensed veterinarians are required to report all cases of disease of a communicable nature that come under their observation. All cases requiring the attention of the state, and any others for which assistance is required, are dealt with cooperatively by the state and local practitioners.

Special investigations in 1921 numbered 86; during the present year 65.

## EXPORTS

The exportation of live stock is governed by the regulations of the state into which the animals are to be shipped. Veterinarians approved by the Federal government, and the authorized local practitioners of this state are empowered to make inspections for interstate shipments.

**Record of Inspections.** Certificates of inspection are made by the veterinarians in charge. One copy is attached to the bill of lading covering the shipment while the other copies are forwarded to this Bureau for approval. One copy of the health certificate is placed on file in the office and one forwarded to the live stock sanitary officials in the state to which the cattle are destined. In the case of tuberculin tests, one approved copy of

the certificate is also forwarded to the office of the Federal Bureau of Animal Industry at Washington, D. C. Under such a plan it is possible to keep a detailed record of all shipments and thus guard against movements of diseased animals.

**Total Inspections.** Live Stock of all classes exported during the past two year period is as follows:

	Dec 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Stallions -----	48	7	55
Jacks -----	54	26	80
Mules -----	185	420	605
Horses (except stallions) -----	3,252	2,489	5,741
Cattle:			
Grazing -----	132	544	676
Grade Dairy -----	1,534	1,135	2,669
Pure Bred Dairy -----	347	85	432
Grade Beef -----	1,651	885	2,536
Pure Bred Beef -----	120	388	508
Swine:			
Pure Bred -----	965	647	1,612
Grade -----	986	886	1,872
Sheep, all classes -----	495	654	1,149
<b>Total Animals Exported -----</b>	<b>9,769</b>	<b>8,166</b>	<b>17,935</b>
Mallein Tests Administered ----	1,931	1,111	3,042

## IMPORTS

The live stock sanitary regulations of Nebraska provide that all animals entering the state must meet certain health requirements as a safeguard against the importation of stock affected with disease. As an added protection to the live stock industry an importation regulation requires that all cattle entering the state be quarantined and subjected to a retest for tuberculosis sixty days from date of entry, thereby eliminating the possibility of infected animals being placed with herds free of tuberculosis.



**Total Inspections.** Live stock of all classes imported during the past two year period is as follows:

	Dec 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Stallions -----	11	2	14
Jacks -----	2	21	23
Mules -----	40	26	66
Horses (except stallions) -----	871	656	1,527
Cattle:			
Grazing -----	28	4,827	4,855
Grade Dairy -----	3,691	5,246	8,937
Pure Bred Dairy -----	346	176	522
Grade Beef -----	7,185	10,286	17,471
Pure Bred Beef -----	57	257	314
Swine:			
Grade -----	9,259	7,808	17,069
Pure Bred -----	585	604	1,189
Sheep (all classes) -----	16,520	71,672	88,192
<b>Total Animals Imported -----</b>	<b>38,595</b>	<b>101,582</b>	<b>140,177</b>
Mallein Test Administered -----	339	220	559

### LOCAL PRACTITIONERS

During the past year the authorized local veterinary practitioners, in addition to testing dairy cattle for tuberculosis, have been permitted to do other lines of work which may be delegated by the Department to them. These authorized veterinarians under this provision perform the stallion inspection work, the glanders investigations, the inspection of live stock for interstate shipment and from time to time any special assignments or investigations they may be called upon to do.

**Authorized Practitioners.** During the last year of the biennium beginning July 1, 1922 and ending July 1, 1923, the following veterinary practitioners were authorized by the Department to perform veterinary work which was delegated to them:

Adams -----	E. J. Balke
Ainsworth -----	C. E. Brewer

Albion	S. M. Score
Albion	G. Neal Chambers
Allen	H. L. Prouse
Alma	G. H. Baxter
Ansley	E. P. Anderson
Arcadia	F. H. Christ
Arlington	P. L. Cody
Arnold	Frank L. Haught
Ashland	V. E. Lovell
Auburn	H. L. Feistner
Aurora	J. S. Anderson
Aurora	H. V. Nothomb

Bancroft	H. J. True
Battle Creek	E. E. McCoy
Bayard	A. J. Kyle
Beatrice	E. J. Neugebauer
Beatrice	H. J. Troemper
Beatrice	Ira W. Evans
Beaver City	S. R. Reed
Beaver Crossing	F. Pettijohn
Benkelman	L. F. Blanchard
Bertrand	C. J. Sall

Big Springs	L. H. Lewman
Blair	W. D. Hammond
Blair	R. E. Tilden
Blair	D. C. Peebles
Bloomfield	Irwin Taylor
Blue Hill	B. F. Carper
Broken Bow	Will Larsen
Broken Bow	Martin Hanson
Bruning	Chas. M. Laird
Burwell	T. G. Gaukel

Callaway	F. A. Baldwin
Campbell	J. S. Wagner
Cambridge	Elmer Watkins
Cedar Rapids	L. R. Trompeter
Central City	Edwin Odell

Central City	Harry S. Johnson
Chambers	J. H. McCart
Chappell	J. T. DoRan
Clarks	K. C. Farley
Clarks	J. E. Stanton
Clarkson	T. C. Chudomelka
Clay Center	J. E. Dobyns
Cody	F. L. Reed
Columbus	J. A. Abart
Columbus	L. B. Cassin
Columbus	L. P. Carstenson
Coleridge	Henry A. Simon
Coleridge	T. H. Knaak
Cortland	J. S. Robertson
Cozad	C. H. Gearhart
Cozad	Leslie J. Boulier
Craig	L. W. Crumbaugh
Craig	Franklin Allen
Crete	Lloyd V. Newman
Crete	G. J. Robertson
Crete	S. P. Ojers
Creston	W. J. Ritter
Crofton	M. R. Sebright
Curtis	I. C. Turpen
Dannebrog	L. C. Crow
Davenport	Jos. D. Kopp
David City	S. W. Phillips
Decatur	E. I. Holman
De Sota	Geo. E. Stanley
Deshler	Guy L. Leslie
DeWitt	W. T. Metcalf
Diller	S. B. Viers
Dodge	Jerome S. Karnik
Edgar	T. J. Lindgren
Elgin	P. M. Jillson
Elkhorn	Carl Edward Larsen
Elm Creek	P. K. Baker
Emerson	James R. Taylor
Exeter	J. B. Barber

Fairbury -----E. K. Paine  
 Fairbury -----L. J. Smith  
 Falls City -----Harry A. Wise  
 Falls City -----R. W. Hixson  
 Franklin -----Frank J. Maxwell  
 Fremont -----C. H. Chambers  
 Friend -----Paul O. Cooper  
 Fullerton -----Arthur G. Beagle  
 Fullerton -----H. L. Prowett

Genoa -----W. I. Randall  
 Gibbon -----R. M. Phillips  
 Giltner -----A. A. Brown  
 Glenvil -----J. E. Snow  
 Gochner -----Chas. M. Elliott  
 Gordon -----J. R. Snyder  
 Gothenburg -----L. F. Nisley  
 Grand Island -----M. V. Byers  
 Grand Island -----Joseph Weinman  
 Grand Island -----Alfred A. Anderson  
 Grand Island --Wm. Joseph Moslander  
 Grant -----Luke Rister  
 Greeley -----L. A. Magrath

Greeley -----J. P. Dillon  
 Gretna -----Frank A. Jelen  
 Gresham -----C. Brittell  
 Guide Rock -----C. C. Moranville  
 Hartington -----R. W. Heckert  
 Hartington -----J. E. Strayer  
 Harvard -----D. W. Stone  
 Harvard -----F. T. O'Brien  
 Hastings -----Harold E. McDonald  
 Hastings -----Geo. Sprenger  
 Hastings -----E. T. Bowers  
 Hastings -----J. L. Hoylman  
 Hayes Center -----F. E. Rathbun  
 Hebron -----J. C. Bowman  
 Hendley -----J. W. Meyers  
 Holbrook -----P. Phillipson

## DEPARTMENT OF AGRICULTURE

Holdrege -----G. H. Anderson  
 Holdrege -----H. C. Collette  
 Hooper -----Earl F. Stewart  
 Hooper -----B. G. Darling  
 Howells -----H. C. Groetke  
 Humboldt -----Howard Starns  
 Humphrey -----George H. Leenerts

Johnson -----J. M. Bowman

Kearney -----Albert A. Munn  
 Kearney -----H. A. Reagor  
 Kenesaw -----W. C. Hines  
 Kenesaw -----S. S. Wertz  
 Kennard -----Clarence E. Mock

Leigh -----Frank J. Jones  
 Lewiston -----Fred O. Slagle  
 Lexington -----Fred L. Knapple  
 Lincoln -----E. E. Deeds  
 Lincoln -----O. E. Lindburg  
 Lincoln -----W. C. Foltz  
 Lincoln -----Carl J. Norden  
 Lincoln -----Floyd Perrin

Lincoln -----S. W. Alford  
 Lincoln -----L. R. Cantwell  
 Loup City -----Earl D. Richards  
 Lynch -----C. G. Crumpacker  
 Lyons -----E. D. Peterson  
 Lyons -----T. A. McMahan

Madison -----J. J. Jones  
 Madison -----F. W. Collins  
 Marquette -----Henry C. Peterson  
 Mason City -----Howard J. Hearrington  
 Maxwell -----F. F. Dolan  
 McCook -----W. F. Jones  
 Merna -----Walter P. Kellenbarger  
 Milford -----Delmer Chas. West



Minden ----- William E. McBain  
 Minden ----- A. Bostrom  
 Mitchell ----- B. J. Baker  
 Moorefield ----- W. A. Walther  
 Murray ----- G. L. Taylor

Nebraska City ----- F. E. Ziegenbein  
 Neligh ----- E. R. Worley  
 Nelson ----- G. A. Riley  
 Newcastle ----- A. N. Ortberg  
 Newcastle ----- F. J. Livingston  
 Newman Grove ----- Arnold L. Childery  
 Norfolk ----- Chas. H. Baer  
 North Bend ----- James A. Thom  
 North Bend ----- Ord O. Wallace  
 North Platte ----- W. T. Pritchard

Oakland ----- L. P. Johnson  
 Oakland ----- F. M. Cowden  
 Omaha ----- A. M. Kuhl  
 Omaha ----- O. F. Reihart  
 Omaha ----- G. R. Young  
 Omaha ----- G. G. Lemley  
 Omaha ----- Wm. G. Melchiorsen  
 O'Neill ----- O. K. Tickler

Orchard ----- E. Bruce  
 Ord ----- J. W. McGinnis  
 Ord ----- A. J. Ferguson  
 Orleans ----- O. S. Packwood  
 Osceola ----- F. H. Oberg  
 Osmond ----- Earl W. Weeces  
 Overton ----- H. M. Guffey  
 Oxford ----- Ernest L. Jones

Palmyra ----- H. G. Newton  
 Panama ----- Geo. L. McClun  
 Papillion ----- Richard Ebbitt  
 Pawnee City ----- E. H. Williams  
 Pender ----- Arthur L. Blake

Pender ----- John A. Berg  
 Petersburg ----- N. L. Larsen  
 Plainview ----- A. A. Eddingfield  
 Pleasanton ----- Leon H. Rice  
 Plattsmouth ----- O. Sandin  
 Plainview ----- E. J. Lyons  
 Polk ----- R. L. Peterson  
 Ponca ----- Henry M. Hans  
 Prague ----- A. W. Bohaboy

Ralston ----- Beck B. Bowen  
 Randolph ----- S. S. Gibson  
 Ravenna ----- F. C. Sundstrom  
 Red Cloud ----- Fred M. Hurst  
 Red Cloud ----- E. D. Leiby  
 Ruskin ----- J. C. Johansen

Sargent ----- Geo. M. Hoobler  
 Schuyler ----- W. H. Boyle  
 Scottsbluff ----- J. L. Meixel  
 Scottsbluff ----- H. C. Hughes  
 Scottsbluff ----- Phillip T. Smith  
 Scotia ----- M. J. Romine  
 Scribner ----- Bernhard Witt  
 Schuyler ----- E. H. Hyland  
 Seward ----- W. W. Fisher  
 Shelton ----- O. R. Wimsett  
 Sioux City, Ia. ----- G. P. Statter  
 Spalding ----- R. F. Lovell  
 Spencer ----- John Schmela

St. Paul ----- F. V. Bell  
 St. Edward ----- A. E. Hasselbalch  
 Stanton ----- L. Collins  
 Stella ----- Joseph H. Brey  
 Stromsburg ----- M. D. Strong  
 Summerfield, Kans. ----- H. R. Tice  
 Sumner ----- F. S. Falk  
 Superior ----- M. A. Latham  
 Sutherland ----- Jas. P. Guffey

Sutton ----- J. S. Barbee  
Seward ----- O. C. Stryson

Talmage ----- S. A. Smith  
Taylor ----- Walter D. Jensen  
Tecumseh ----- Sylvester Brown  
Tecumseh ----- D. W. Hurst  
Tekamah ----- D. C. Scott  
Tekamah ----- G. L. Schaefer  
Tilden ----- James R. Landreth  
Trenton ----- M. Campbell

Uehling ----- C. W. Johnson  
Ulysses ----- R. C. Gilmore  
Uni. Place ----- W. A. Cornell  
Utica ----- Darrell E. Trump

Verdigree ----- John T. Bruce

Wabash ----- Guy M. Lake  
Wahoo ----- J. I. Gartrell  
Wahoo ----- O. H. Person  
Wahoo ----- G. A. Bostrom  
Wakefield ----- A. H. Krull  
Walthill ----- Leroy E. Williamson  
Waverly ----- M. B. Cogswell  
Wausa ----- F. O. Lindberg  
Wayne ----- J. C. Johnson  
Wayne ----- William H. Hawkins

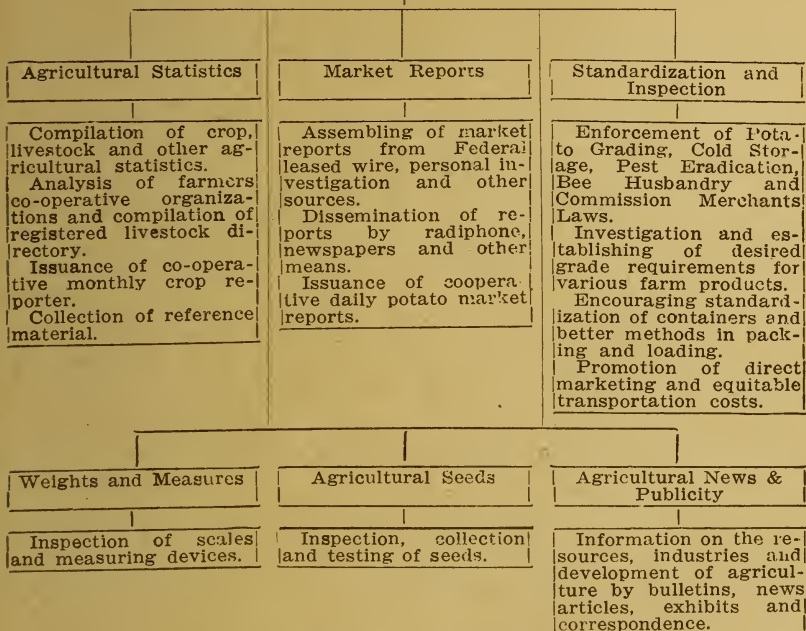
Weeping Water ----- W. H. Tuck  
West Point ----- G. J. Collins  
West Point ----- J. M. Collins  
Weston ----- Frank J. Woita  
Western ----- J. E. Salsbury  
Wilber ----- Fred Barta  
Wilcox ----- S. J. Olson  
Wilsonville ----- L. W. Stevens  
Wisner ----- O. O. Person  
Wisner ----- Benjamin Griffith

## DEPARTMENT OF AGRICULTURE

Wood Lake	-----	H. C. McNare
Wood River	-----	R. L. Green
Wymore	-----	J. T. Walsh
Wynot	-----	G. A. Schulte
York	-----	Geo. R. Miller
York	-----	T. P. Rose

# BUREAU OF MARKETS AND MARKETING

## DIVISIONAL ACTIVITIES



## SCOPE OF ACTIVITIES

**Laws Enforced.** The activities of this Bureau have developed satisfactorily for the past two years so that the services which it is now rendering are of unquestioned economic importance. The laws originally assigned to the Bureau for enforcement were those relating to Weights and Measures, Cold Storage, Agricultural Seeds and Potato Grading. In addition to enforcing the provisions of these laws the Bureau has been engaged in the development of new lines of endeavor consistent with the original intentions of those whose foresight outlined the activities a marketing agency should pursue.

**Market Reporting.** The new activity of greatest importance is the market reporting service. The aim in the development



of the market reporting work has been to make it of the greatest value to the largest number of people in the state. The service is comparatively new but the manner in which it has been received indicates the need for a rapid and accurate means of disseminating market information. In order that the producer may conduct his business in the most profitable manner he must give the subject of marketing more of his attention in the future. In the past the matter of production has been given a great deal of attention, but to insure a continuation of the farmers' business the crops that are marketed must return a fair margin of profit. The limitation of acreage, the selection of the best markets and the withholding of products to prevent glutting of the market are some of the problems the farmer must consider in the future. In this connection the market reporting work of this Bureau should be of great value.

**Agricultural Publicity.** Another new activity is that in connection with publicity concerning the agricultural industries of the state. The power vested in the Department to publish agricultural information has been exercised during this biennium on a larger scale than in previous years. In this way the various industries have been shown in their relative importance and comparisons enabled to be made with the progress of the same industries in other states. A number of special bulletins each dealing with a single subject in an attractive manner, have been published and these have been supplemented by newspaper articles bearing on a wide range of topics, all of which has served the purpose of giving a better understanding of the present status, and of possibilities for future developments of the resources of this state.

**Revision of Laws.** During the last session of the legislature considerable attention was given to the laws assigned to this Bureau for enforcement as well as the passage of new laws giving rise to new activities.

The laws relating to Potato Grading, Weights and Measures and Agricultural Seeds were revised in order to strengthen and make them conform to present conditions. These measures are more fully discussed under the respective activities.

**New Laws.** Three new laws were passed and assigned to the Bureau for enforcement. These were the Bee Husbandry law, the Pest Eradication law and the Farm Warehouse law. The activities under the first two of these laws have been limited for the reason that no appropriation was made to provide for their enforcement. A more complete report of such activities as have taken place under these laws will be found in the following pages of this report.

## POTATO GRADING

**Changes in Law.** The Potato Grading Law enacted in 1919 was revised by the 1921 legislative session at the request and on the recommendation of the Nebraska State Potato Improvement Association and others directly interested in the growing and marketing of this crop. The changes aimed to give the law more flexibility, besides making provisions for a wider range of grades.

**Rules and Regulations—Grades.** The original law established Grade Fancy, No 1 and 2. The 1921 law stipulated four grades, Fancy, No. 1, No. 2 and Early Nebraska. The new law embodied the same four grades but in addition gave the Department power to create additional grades by regulation if found advisable to do so. Accordingly, rules and regulations were issued effective July 1, 1922, establishing two additional grades. These were U. S. No. 1 Small and Nebraska Seed. The four grades established by law were drawn in conformity to the recommendations of the U. S. Department of Agriculture. The same is also true of the U. S. No. 1 Small.

U. S. No. 1 Small differs from U. S. No. 1 only in regard to the size of potatoes. Where large amounts of potatoes are to be shipped and grading is done on a large scale a considerable portion of the crop will grade No. 1 so far as quality is concerned but will fall below the standard for size. It was for the purpose of making provision for this class of potatoes that this grade was established.

Nebraska is the only state having a grade especially for seed potatoes. Stock must meet practically all of the requirements of No. 1 grade except for size, the minimum size permitted

being 1½ inches for all varieties. Sunburn is not considered a defect for this grade because this condition materially adds to the value of potatoes for planting purposes. Vascular discolorations, while permitted to only a very slight extent in Grade No. 1, are not permitted at all in seed stock for the reason that in addition to preventing the spread of disease it is desired to establish a high reputation for Nebraska Seed Potatoes.

**Potato Area Expands.** An idea of the expansion of the activities carried on in connection with the Potato Grading Law may be gained from the fact that during the first year of its operation but 26 local inspectors were required to perform the work of inspection, confined chiefly to western Nebraska. In 1921 the number was increased to 40, while during the present year the number has been close to 90 and shipments have been made from many points not previously having car lots for surplus.

**Uniform Inspections.** Re-inspection is a provision of the law. Any shipper who is dissatisfied with the original inspection may demand a re-inspection of his shipment at point of destination for a fee of \$5.00. Of the 5,263 car lot shipments originating in Nebraska in 1921 but 12 were re-inspected by the Department, a fact which speaks for itself in regard to the uniformity and unbiassed manner in which the original inspections were performed.

**Improved Quality.** Aside from the activities in connection with the actual inspection work of the Bureau of Markets and Marketing has exerted continued efforts toward improving the quality of Nebraska potatoes. The results of an investigation carried on in the spring of 1922 in this connection furnishes a good index to the rapid improvement being made. Questionnaires sent to 750 potato dealers in eleven states revealed the following facts: that prior to 1919 the storage of Nebraska grown potatoes was unsatisfactory to 90 per cent of the dealers reporting. The largest factor contributing to this condition was dry rot which was found to be responsible for 64 per cent of the unsatisfactory storing results. Reports from these same dealers for the past two years show that the unsatisfactory experience with Nebraska potatoes has improved by 80 per cent. They attribute 90 per cent of this improvement to better grading.

**Work Self Supporting.** Under the present law the potato work is entirely self-supporting and no tax funds of any sort are used for carrying on the various activities in connection with grading or marketing. The original law set the fee for inspection at \$2.00 per car and the inspector was permitted to retain the entire fee for his services, while the balance of the activities were supported by tax funds from the state treasury. It is felt that under the present law the former arrangement has been greatly improved upon. The inspector while still being paid on a fee basis is limited in the amount of remuneration he may receive in any one day and all fees must pass through the state treasury where the proper allotment of funds is made. The adoption of the monthly budget system enables a close check to be kept on the receipts and expenditures of all phases of the work so that no discrepancies are allowed to occur which might hamper the work in any way.

**Prosecutions.** During the biennium there has been slight disposition shown by potato shippers to evade any portion of the law. Three prosecutions have been made for minor offenses, one in Box Butte county, one in Hitchcock county and one in Sioux county.

**Car Lot Shipments of Potatoes**  
**Season of July 1, 1921—July 1, 1922**

Shipping Point	Early					Total
	Fancy No. 1	No. 2	Nebr.	Mixed Seed		
South Central District						
Ansley -----	10	1				11
Blaine -----			1			1
Bloomington -----	1					1
Buda -----	13	2	6			21
Cozad -----	25	1				26
Culbertson -----		3				3
Doniphan -----	6	1				7
Elm Creek -----	2					2
Franklin -----	1					1
Gibbon -----	3	3	1			7
Glenwood -----	2					2
Gothenburg -----	4	2				6
Grand Island -----	7	7	1	2		17
Guide Rock -----		1				1
Hastings -----		1				1
Hayland -----	1	1				2
Hershey -----	1	5		1		7
Holstein -----	2					2
Juniata -----	8	4	2			14
Kearney -----	263	110	27	2		402
Kenesaw -----	4	7	1			12
Lexington -----	2					2
McCook -----		2				2
Newmarch -----	1					1
Odessa -----	28	12	3	1		44
Optic -----	15	5	3			23
Prosser -----	2	1				3
East District						
Beaver Crossing -----		2				2
Columbus -----		4				4
Lincoln -----		13				13
Wann -----		1				1
West District						
Alliance -----	1	260	133	34	134½	428
Andrews -----		3			1	3
Angora -----		1	1	3	½	5
Ashby -----		1	1	1	1	3
Bayard -----	2	50	22	16	3	90
Belmont -----		37	28	3	31	68
Berea -----		58	28	2	52	88
Birdsell -----		8	14			22
Bridgeport -----		3	6	2		11
Broadwater -----		4	6	1	1	11
Bushnell -----		13			12	13
Chadron -----		15	6		12	21
Clinton -----		16	117	3	5	14½
Crawford -----		22	8	2	16½	32
Dix -----		3			1	3
Gordon -----		24	379	3		406
Gering -----		2				2



<b>West District (Continued)</b>							
Glen		14	1			13	15
Girard		1	5			1	6
Harrison		6	5		1		12
Haig		10	3				13
Hay Springs		128	23	2	7	8	160
Hemingford		204	383		37	153½	624
Henry	4	328	55		13	56	400
Kimball	1	37	9		2	18	49
Lewellen		3			1		4
Lisco					1		1
Marsland		76	45		7	66	128
Mitchell	4	316	92	3	19	20	434
Minatare	1	86	11		1	20	99
Morrill	19	392	269		24	42½	704
Rushville		36	140		1	25	177
Scottsbluff	1	79	33		14	11	127
Scoville		2					2
Yockey		9	9		5		23
<b>North Central District</b>							
Ainsworth		13	170		1		184
Crookston			2				2
Johnstown		8	32				40
Kilgore			1				1
Long Pine			34		1		35
Nenzil			1				1
O'Neill		2	11				13
Thatcher			1				1
Valentine			1				1
Unclassified							19
<b>Total</b>		<b>33</b>	<b>2671</b>	<b>2274</b>	<b>53</b>	<b>213</b>	<b>714</b>
							<b>5263</b>

Re-inspections ----- 12  
 Total Inspections July 1, 1922 ----- 5275

The forgoing table is a record of the inspection reports on file for car lot shipments made during the season of 1921, which extended between July 1 of that year and July 1 of the present year. It will be noted that during this time a total of 5,263 cars were shipped, many of the shipping points being places which had never previously produced potatoes in amounts sufficient to make car lot shipments. This represents an increase of 3,253 cars over the previous year when a total of 2,010 car lot shipments were made, largely from the western district.

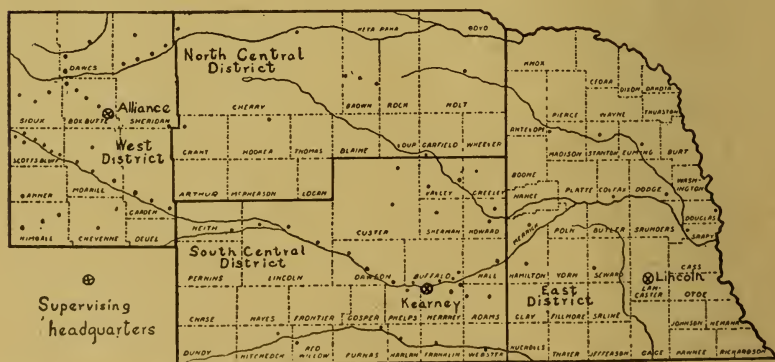
It will also be noted that of the 5,263 cars shipped last season but 12 underwent re-inspection. Of this number three of the original inspections were sustained, seven grades were lowered due to the finding of defects in excess of the tolerance for the higher grade, and two cars were found to be in such condition that no grade could be established. While the re-inspection was not important from the standpoint of numbers it was indi-

cative of the impartial and efficient manner in which the original inspections were made.

The total shipments for the present season are not given for the reason that the movement of potatoes has been slow, due chiefly to the low price which has prevailed and partly to the fact that at times there was a shortage of cars in some sections of the state.

**Local Inspection.** During the present year it was necessary to greatly increase the number of local inspectors. In 1921 forty inspectors located at the various shipping points were sufficient to perform the work of inspection. This year the number was increased to 88, made necessary not only by the increased acreage in the older potato raising districts but by the development of new areas in widely scattered localities.

The following map of the state shows the points at which local inspection service has been maintained during the past season. Kearney and Alliance have been headquarters respectively for the issuance of the daily potato bulletins, these points being selected because they are advantageously located in respect to the surrounding territory.



Dots indicate points at which local inspectors were located during the present season

**AGRICULTURAL SEEDS**

**Uniform Seed Law.** During the Legislative Session of 1921, what is known as the "Uniform Seed Bill" became a law in Nebraska. It has thus far proven to be a very practical and satisfactory measure. Its principal feature is the labeling requirements. All agricultural seeds which are sold, offered or exposed for sale within the state for seeding purposes, must bear a statement, tag or label giving the following information:

1. The commonly accepted name of such agricultural seeds.
2. Approximate percentage by weight of purity.
3. Total percentage of weed seeds.
4. Name and amount of noxious weed seed.
5. Percentage of germination.
6. Full name and address of vendor.
7. Origin of seed.

**Noxious Weeds.** Under the provisions of the old seed law there were certain noxious weed seeds named in the law and the specifications made that seed which contained more than one such weed seed to 10,000 agricultural seeds should not be sold in Nebraska. The new law, however, is upon a different basis; it relies upon the intelligence of the purchaser and it is believed that the important thing to secure for one who is buying, is the information as to what he is purchasing, rather than tell him that there are certain lots of seed he can buy and certain other lots which he can not buy. If he knows what he is buying he can use his judgement regarding the perniciousness of the various noxious weed seeds present, and can plant more or less seed per acre according to the percentage of germinable seed for which he pays.

Many of the most noxious weeds in the field are not seed problems at all, as some weeds bloom and scatter their seeds in the spring or early summer before the cultivated plants are well established for the year's growth. This is often the case with perennials and those propagated by root stalks. Weed seed that become a seed problem come from plants maturing at about the same time as the cultivated plants or crops in the field. They

must also be of such size and specific gravity that they remain with the crop seed after the threshing process.

**Percentage of Germination and Date of Test.** The law requires two very important points of information to be indicated on the bag or label of all lots of agricultural seeds excepting those seeds defined as "Special Mixture."

The percentage of germination or the percentage of seeds which are viable or which will sprout or germinate within the normal number of days must be stated. This is of highest value in determining the quality and actual value of the seed, since dead seed are worthless for planting and are deceptive in determining the amount of seed to use per acre for planting.

The date, that is, the month and year when the test was made, must be given. This item is also essential due to the fact that the viability of seed decreases with age, and the purchaser can readily determine from this information on the tag whether the vitality of the seed has been affected by the time that has elapsed since the test was made to materially lower the percentage of germinable seed.

**Origin of Seed.** The origin of the following imported seeds must be given: Turkestan alfalfa, Italian grown red clover, Italian grown alfalfa and Red clover grown in Chile. The origin of imported seed is clearly indicated according to the Seed Importation Act and it is not difficult to trace its origin. As such seed may not be at all acclimated to localities in this country, this is very valuable information to the farmer.

**Label Requirements.** The law provides for distinct labels for three classes of agricultural seeds, namely: (1) the general run of unmixed agricultural seeds, (2) mixtures of two kinds of agricultural seeds and often thought of as natural mixtures, and (3) "Special Mixtures" which contain two or more kinds, mixed with a definite object in view, such as for lawn, pasture, meadow, golf or orchard purposes.

The report on the seed analyses and tests made in the seed laboratory of the Department are being made on a representation of a tag which gives suggestions of the requirements in general.

Name of Seed -----

Pure Seed -----%      Weed Seeds -----%

Other Crop Seed -----%      Inert Matter -----%

O      Noxious Weeds -----

Approximate Number per Ounce -----

Germniation -----%      Hard Seed -----%

Date Tested -----, 192---

For -----

O      County -----      State -----

FROM

Front and reverse side of general tag suitable for use with all classes of seeds.



**Publications.** In August of 1921, "Regulatory Announcements" were published in circular No. 5, setting forth the rules and regulations governing the sale of agricultural seeds together with the official methods of seed testing.

During the early part of the biennium bulletin No. 121, entitled "Nebraska Weeds," was published which listed thirty-six of the most common weeds in Nebraska, described their seeds and discussed means of eradication. Because of the large demand which arose for this bulletin it was later necessary to issue a second edition in order to supply the requests coming from all parts of the state.

**Seed Inspection.** An inspection service was established and the labeling and quality of seeds in wholesale and retail establishments carefully checked, the inspectors submitting samples to the laboratory where tests, analyses and labels were carefully checked. Some lots of seed found to be unlabeled or improperly labeled were ordered off sale until the law was complied with. Where violations were found when the first inspections were made under the new law, the offenders were notified by warning letters. Later when it was found warnings had not been complied with it was necessary to file a prosecution in some cases. Many packages of so-called lawn grass seed or mixtures were found to be violations of the law and on account of their noncompliance were ordered off sale.

**Free Seed Analysis.** The Seed Law provides that any citizen of the state may send to the laboratory a number of samples for test and analysis, free of charge. Farmers and seed dealers have taken advantage of this service so extensively that in order that efficiency may be maintained in this department more adequate provision must be made for the necessary help.

**Future Development.** In the past the expense of carrying out the provisions of the Seed Law has been taken care of by fees collected by the Bureau of Food, Drugs & Oil, and the Bureau of Markets and Marketing, from a number of different sources. With the further development of the seed inspection work, as provided for under the Uniform Seed Law, it will not only necessary to provide additional analysts and assistants in the laboratory, but also to provide for at least two inspectors for the purpose of obtaining compliance of the statutes. It can

readily be recognized that this work is seasonal. The bulk of inspection and analyses are made in the six month period from January 1st to July 1st. In order that the most efficient and economical compliance be obtained it would nevertheless be necessary to maintain a permanent organization for the entire year. This activity should continue to be conducted in close cooperation with some other subject which is also seasonal but which may have the greatest volume of work at a time during the year not in conflict with the seed work. During the past biennium the seed inspectors have been utilized for cold storage inspections, as well as supervision in the enforcement of the potato grading law. This arrangement has been very satisfactory and should be continued.

The following table gives the number of analysis and inspections made during the biennium:

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Inspections -----	35	266	301
Germination Tests -----	1043	2565	3608
Purity Analyses -----	994	2440	3434
Identification of Plants -----	37	53	90
Identification of Seeds -----	54	50	104

## WEIGHTS AND MEASURES

**Changes in Law.** The Weights and Measures Law as carried on the statute books during 1919 and 1920 contained a number of defects which tended to render it ineffective and weak as a measure for adequately carrying on the work in reference to weights and measures. In view of these facts the law was revised by the last session of the legislature and passed with provisions for remedying these weak points.

The Department was vested with authority to promulgate rules and regulations necessary for enforcement of the provisions of the act; also to establish tolerances and specifications for weighing and measuring apparatus, and regulations regarding

the kinds and varieties of devices or attachments on weights and measures and weighing and measuring appliances. Additional authority was given to establish any necessary standards which are not definitely defined by law.

Under the provisions of the old law the sale of rye flour, rye graham, wheat graham, whole wheat flour and corn meal was limited to packages of 48 pounds or binary sub-multiples of that amount. The new law legalized the sale of these products in packages containing 100, 50, 25, 10, 5, 3, 1½ or 1 pound quantities. Any other commodity for which a legal unit is specified cannot be sold in other units except by written agreement.

**Duties of Inspectors.** Inspectors are given authority to check and weigh any product kept, offered or exposed for sale and they may file prosecution charges against violators of unit measurements. The Department is empowered to confiscate any weights and measures that are found to not meet the tolerances and specifications as adopted and which in the judgment of the inspector are not susceptible to repair. Removal of "Condemned for Repair" tags is a misdemeanor and the owner of any device on which these tags are place is held responsible for removal before the inspector's instructions have been carried out.

The inspector is made a special policeman and has authority to arrest any violator of the statutes in relation to weights and measures and persons interfering with or hindering him in the performance of his official duties are considered to have committed a misdemeanor. He may, when the occasion warrants, file complaints before any court of competent jurisdiction, as a means of enforcing the provisions of the law.

**Fees.** The fees for inspection work are fixed under the new law with a view to making the Division of Weights and Measures self supporting. Previously there had invariably been an insufficient amount of income to provide for the necessary expenses in carrying on the work, and it was necessary to make up this deficit either by appropriation or by the transfer of funds from some other Bureau. The importance and scope of the

activities in relation to weight and measures made it advisable that the work should be self supporting.

**Enforcement.** It has been the intent to enforce the provisions of the law with the least possible amount of hardship to those found to be evading any of its sections. Due to the fact that a number of sections were new a reasonable period of tolerance was deemed advisable in order that owners of the various devices coming within its scope might have an opportunity to make any necessary repairs or alterations. The use of warning letters and letters of explanations have therefore been used to a large extent for it has been found that practically all violations of the provisions of the act have been due to misunderstanding rather than design.

**Organization.** Until July, 1922 the inspection service was carried on with four field men and one chief inspector. With the increasing number of filling stations and gasoline pumps it was found necessary to add an additional field man.

For inspection purposes the state is divided into four districts, one inspector being assigned to each district. The additional inspector added in July, however, was assigned to districts where it was doubtful if the regular inspector could complete the work during the calendar year.

The chief inspector not only investigates complaints which are reported from various sources but is often called upon to make special inspections. He also works part time with each inspector, in this way being able to keep in close touch with the work throughout the state and establish a system of uniformity which is one of the prime essentials.

**Field Work.** The past two years have shown a great increase in the number of heavier type of scales used. This has necessitated the use of "dead weight" as well as the usual 1000 pounds of test weights. In testing hopper scales of 30,000 pounds capacity or less, the specifications of the Interstate Commerce Commission are followed as closely as possible. Hopper scales exceeding this capacity are tested by means of the Precision Test for Large Scales as outlined in Technology Paper No. 199, issued



by the Federal Bureau of Standards. Automatic hopper scales are placed in balance and a running test made, preferably of 30 drafts. They are then checked both for weight and repetition. By following the foregoing methods the large scales of the hopper type have been tested in a precise manner which has proven satisfactory in practically every instance.

The smaller scales, including cream scales, are tested at the capacity of the beam if this capacity is 50 pounds or over. Flour scales are tested at those points at which the units are weighed and also at intermediate points.

The specifications and tolerances for measuring pumps, as recommended by the Fourteenth Annual Conference of Weights and Measures Officials of the United States, have been adopted and all inspections and tests are made in accordance with these adoptions. Supplementary to these specifications, the Department has recommended that all operators of measuring pumps keep a sealed measure in order that the accuracy of their pumps may be checked from time to time.

The stock yards scales at South Omaha over which an immense number of live stock pass each year, have been checked much more closely than has been the case heretofore. This has been accomplished by means of one of the state inspectors accompanying the regular commercial inspector from four to six times each year, on his monthly checkings of these scales.

**Laboratory Established.** One of the most needed improvements made during the biennium has been the establishment of a laboratory where more accurate testing may be made of the various weighing and measuring devices. Important work in this connection already accomplished was the testing of nearly 500 grain buckets during the past year. A large percentage of these buckets were found to be inaccurate and the results indicate a great need for a continuation of the work.

A great deal of other checking and testing of the smaller measuring and weighing devices has been accomplished in the laboratory, which heretofore has been an impossibility. There has also been a large amount of checking work done on informal food samples, particularly dry commodities sold by the pint and quart.



**Release of Condemned Devices.** The law provides that seizure may be made of any incorrect weight measure, weighting or measuring device which is not susceptible to repair. In the case of devices which in the judgment of the inspector are susceptible to repair they may be condemned for repairs. Under this provision a thirty day period is permitted in which the device may be repaired so that it will comply with the established tolerances. The owner of such device must notify the Department within the thirty day period submitting a Certificate of Repair properly filled by the repair man to the effect that the device has been made to conform with the standards and that its use comes within the tolerance permitted. If this work has been performed by a competent repair man known to the Department, the device is released for use subject to the statement of the repair man, but the owner is held responsible in case compliance is not made. This plan has been very satisfactory in a general way. It eliminates the necessity of making a re-inspection by the Department, which would incur considerable expense.

**Inspections.** The cities of Omaha and Lincoln are required to make a report of all inspections to this Department. The following tables give the number and kind of inspections made in these two cities during the past four years:

Sealed	Omaha			
	1919	1920	1921	1922
Hopper Scales -----	2	7	5	6
Platform Scales -----	642	648	644	708
Wagon Scales -----	298	312	327	343
Dormant Scales -----	104	109	184	116
Beam -----	17	16	14	18
Counter Scales -----	1735	1995	2025	2224
Stock Scales -----	15	15	15	18
Weights -----	2700	2780	2800	2930
Measures, Dry and Liquid---	193	565	432	446
Pumps -----	136	167	245	269
Slot Weighing Machines ----	33	45	47	130
Measuregraphs -----	41	43	52	62
Cloth Measure -----	420	385	363	392
<b>Total</b> -----	<b>6336</b>	<b>7089</b>	<b>7438</b>	<b>8116</b>

**Condemned**

Hopper Scales -----				
Platform Scales -----	25	32	61	95
Wagon Scales -----	23	40	37	53
Dormant Scales -----	10	13	14	16
Beam -----	2	1		3
Counter Scales -----	175	127	182	233
Stock Scales -----				
Weights -----	35	52	93	142
Measures -----	37	33	56	97
Pumps -----	40	48	69	53
Slot Weighing Machines -----	10	9	11	15
<b>Total</b> -----	<b>357</b>	<b>355</b>	<b>523</b>	<b>707</b>

**Released**

Hopper Scales -----				
Platform Scales -----	35	48	60	72
Wagon Scales -----	10	15	23	33
Dormant Scales -----	5	6	3	9
Beams -----				
Counter Scales -----	48	53	67	108
Stock Scales -----				
Weights -----	35	52	93	142
Measures -----				
Pumps -----	18	21	36	92
<b>Total</b> -----	<b>151</b>	<b>195</b>	<b>279</b>	<b>456</b>

**Note:** The 1918 report should begin December 1, 1918 and close December 1, 1919. The 1920 report will begin December 1, 1919 and close with December 1, 1920 and likewise for the remaining two years.

## Lincoln

Sealed	Dec. 1918 to Dec. 1919	Dec. 1919 to Dec. 1920	Dec. 1920 to Dec. 1921	Dec. 1921 to Dec. 1922
Hopper Scales -----	2		2	
Platform Scales -----	50	491	237	272
Wagon Scales -----	12	14	44	21
Dormant Scales -----	9	16	51	67
Counter Scales -----	166	497	402	603
Weights -----		1624	2136	2493
Measures -----	66	529	445	649
Pumps -----	60	172	140	258
Linear Measures -----	31	1529	1213	1030
<b>Total</b> -----	<b>396</b>	<b>5276</b>	<b>4688</b>	<b>6060</b>

## Condemned

	Dec. 1918 to Dec. 1919	Dec. 1919 to Dec. 1920	Dec. 1920 to Dec. 1921	Dec. 1921 to Dec. 1922
Hopper Scales -----		1		
Platform Scales -----	7	63	46	39
Wagon Scales -----		2	7	9
Dormant Scales -----	1	6	8	7
Counter Scales -----	25	78	45	81
Weights -----		32	2	9
Measures -----	3	46	9	8
Pumps -----	8	18	5	21
Linear Measures -----		27		9
<b>Total</b> -----	<b>44</b>	<b>273</b>	<b>122</b>	<b>183</b>

**Note:** The 1919 report should begin December 1, 1918 and close December 1, 1919. The 1920 report will then begin with December 1, 1919 and close with December 1, 1920 and likewise for the remaining two years.

**Departmental Inspections.** The following tables show the total number of inspections made during the past two bienniums. These inspections were made by the regular salaried inspectors of the Division of Weights and Measures and include weighing and measuring devices in all sections of the state outside of Omaha and Lincoln.

The apparent decrease in the number of weights sealed is because these weights are now checked on the scale by use of test weights of the proper denomination and no record made. The apparent decrease in the number of dormant scales is caused by the change in the classification of scales under the new law.

The sealing of measuring pumps was deferred until after the adoption of standard specifications and tolerances in order that these devices would not be sealed in 1921 and possibly be condemned in 1922 for failing to comply with the new specifications.

<b>Sealed</b>	<b>Dec. 1918 to Dec. 1919</b>	<b>Dec. 1919 to Dec. 1920</b>	<b>Total for Biennium</b>
Hopper -----	413	421	834
Platform -----	2876	3374	6250
Wagon -----	1504	1966	3470
Dormant -----	110	86	196
Automatic -----	179	108	287
Counter -----	4262	5191	9453
Stock -----	346	519	865
Weights -----	771	80	851
Measures -----	863	471	1334
Pumps -----	1593	1038	2631
<b>Total -----</b>	<b>12917</b>	<b>13254</b>	<b>26171</b>

Condemned	Dec. 1918 to Dec. 1919	Dec. 1919 to Dec. 1920	Total for Biennium
Hopper -----	4	19	23
Platform -----	106	126	232
Wagon -----	145	181	326
Dormant -----	6	2	8
Automatic -----	6	7	13
Counter -----	454	336	790
Stock -----	77	119	196
Weights -----	23	49	72
Measures -----	89	115	204
Pumps -----	54	80	134
<b>Total</b> -----	<b>964</b>	<b>1034</b>	<b>1998</b>

Released	Dec. 1918 to Dec. 1919	Dec. 1919 to Dec. 1920	Total for Biennium
Hopper -----	4	5	9
Platform -----	27	23	50
Wagon -----	59	91	150
Dormant -----	1		1
Automatic -----	3	1	4
Counter -----	172	129	301
Stock -----	35	55	90
Measures -----	15	20	35
Weights -----	1	6	7
Pumps -----	24	41	65
<b>Total</b> -----	<b>341</b>	<b>371</b>	<b>712</b>



<b>Sealed</b>	Dec. 1920 to Dec. 1921	Dec. 1921 to Dec. 1922	Total for Biennium
Hopper -----	283	249	532
Platform -----	2850	3048	5898
Wagon -----	1778	1648	3426
Dormant -----	31	34	65
Counter -----	4488	4193	8681
Automatic -----	236	225	461
Stock -----	493	429	922
Weights -----	15	106	121
Measures -----	201	735	936
Pumps -----	597	856	1453
Drug Scales -----	331	585	916
Beams -----		405	405
<b>Total</b> -----	<b>11303</b>	<b>12513</b>	<b>23816</b>

<b>Condemned</b>	Dec. 1920 to Dec. 1921	Dec. 1921 to Dec. 1922	Total for Biennium
Hopper -----	20	36	56
Platform -----	172	231	403
Wagon -----	247	284	531
Dormant -----	5	9	14
Automatic -----	15	22	37
Counter -----	581	583	1164
Stock -----	89	127	216
Weights -----	36	48	84
Measures -----	17	209	226
Pumps -----	52	137	189
Drug Scales -----		21	21
Beams -----		6	6
<b>Total</b> -----	<b>1234</b>	<b>1713</b>	<b>2947</b>

Released	Dec. 1920 to Dec. 1921	Dec. 1921 to Dec. 1922	Total for Biennium
Hopper -----	14	23	37
Platform -----	80	65	145
Wagon -----	189	189	378
Dormant -----	3	4	7
Automatic -----	7	9	16
Counter -----	315	185	500
Stock -----	58	87	145
Weights -----	3		3
Measures -----	2	59	61
Pumps -----	37	55	92
Drug Scales -----		3	3
Beams -----		4	4
<b>Total</b> -----	<b>708</b>	<b>683</b>	<b>1391</b>

## RODENT AND INSECT PEST ERADICATION

**Pest Eradication Law.** The annual loss to the agriculture of the state caused by insects and rodent pests has long been realized but was not officially recognized until 1921, when the legislature passed what is known as "The Pest Eradication Law". The law authorizes the State Department of Agriculture to establish pest districts for the compulsory eradication of any pests, whenever, after careful investigation, conditions are found to be such as would justify this proceeding. It also authorized the Department to appoint such agents as are necessary to properly enforce the law, and any additional orders that may be issued. Unfortunately, the law does not provide an appropriation to cover the expense of its enforcement, thus preventing the accomplishment of much of the good which would otherwise be possible.

**Pest Districts Established.** Applications for the establishment of such districts were received from a number of counties, especially those in the western part of the state. At the urgent request of petitioners from Scotts Bluff county, the Department made an investigation of conditions there relative to the various pests reported to be causing serious losses.

As a result of this investigation four pest districts were formed within the county. The Kiowa district for the eradication of prairie dogs; the Scottsbluff district for the eradication of gophers; the Scottsbluff district for the eradication of grasshoppers; and the Scottsbluff district for the eradication of sugar beet web worm. Official orders were issued for each, designating the area included, and defining the duty of the landowner and tenant, the method or methods of procedure and the penalty for violation. A copy of each order was published in the press of the county and also circularized and distributed. One agent was appointed and authorized to represent the Department in enforcing its orders. Inasmuch as no state funds were available, it was necessary to secure local financial assistance to the extent of his salary. This was made possible by the cooperation of the County Farm Bureau, the Water Users Association, and various ditch companies in the county. The arrangement proved very satisfactory and furnished additional local interest in the campaign. During the month of July the requests for investigations became so numerous that it was necessary to appoint an assistant for one month.

**Scope of Work.** A better idea of the extent of the work done may be realized when it is known that approximately 322,560 acres were involved in each of the districts for grasshoppers and gophers, and 138,240 acres in the prairie dog district.

**Field Work.** The use of poisoned baits of various kinds was recommended by the Department in their official order and by the County Farm Bureau in all their publicity. Realizing that the mixing of so much poison could be done more economically and with less danger at a central point, arrangements were made with local parties to mix the entire output at a small margin of profit. The financing of this operation was accomplished thru the cooperation of the Farm Bureau which purchased all poison supplies in carload lots at prices much below those possible when bought in small quantities. A total of 742,000 pounds of poison bran bait was mixed by the one plant and distributed to farmers at a considerable saving over what it would have cost to have it mixed at home. After the campaign was well under way, it became evident that it would be necessary to include that portion of Sioux County which was under irrigation and adja-

cent to Scotts Bluff district, if the work was to be a success. Accordingly, pest districts for eradication of gophers, grasshoppers and web worms were established and placed under the control of the Department's agent at Scottsbluff. This area included approximately 115,000 acres.

**Results.** The results obtained from a campaign of this nature are very hard to reduce to a monetary basis. Losses in past years over this area where no organized effort was made to control the various pests, have been carefully estimated from figures obtained from individual farmers, Water Users Associations, and other sources, and total approximately \$500,000.00. Grasshoppers account for the larger part of this loss each year. One of the more serious losses is that of irrigation water from laterals thru runways of pocket gophers which varies from ten per cent, where damage is light, to extreme cases where ninety per cent has been lost.

In years past the damage from the sugar beet web worm has been serious. The cooperation of the entire Great Western Sugar Co. organization was volunteered and proved very effective. A total of 230,000 pounds of paris green was purchased in carload lots by the Company and distributed to sugar beet growers at actual cost.

**Reduction of Losses.** As a result of the entire pest campaign, it is safe to say that the total loss of approximately \$500,000.00 which would have occurred had there been no effort made to prevent it, was reduced to \$150,000.00 or 30% of the total. That this is still too great a loss to be continued is proven by a glance at the actual cost for control of the various pests. Prairie dogs were eradicated at a cost of ten to fifteen cents per acre, and the same acre produced fifty cents worth of grass where none grew before. In at least one instance, hay was made from a considerable area of land from which the dogs had been poisoned this year; the owner stated that it had given him no returns for seven years previous because the dogs had always eaten up the profits. Grasshoppers may be brought under control and serious damage prevented at a cost of 25 to 50 cents per hundred dollars. Web worm control may be secured by an investment of \$1.10 to \$2.10 per acre, depending upon whether cal-

cium arsenate or paris green is used. Gophers may be eradicated and enormous loss prevented at an average cost of 50 cents per acre, through the use of poisoned bait and the follow-up campaign with traps.

**Changes in Law.** The present law should be clarified and amended and especially should it provide for eradication of pests from state owned school lands. Previous conflicting laws should be completely repealed, in the repealing clause of the present law. A revolving fund should be provided to take care of the lands on which financial assistance for the eradication and control of injurious pests has to be rendered; funds for the eradication of such pests from state owned school lands should also be provided.

**Continuance of Pest Work.** To secure satisfactory control of pests over a given area, it is necessary that a campaign be continued uninterrupted over a period of years. While a complete eradication of prairie dogs can be perfected within a short time, the elimination of pests like gophers, grass hoppers and webworms are largely control measures which must be conducted during several successive seasons in order to secure the desired results. In order to accomplish these results the activities in Scotts Bluff and Sioux counties should be continued throughout the coming biennium.

The following statement shows the receipts and expenditures in connection with the pest eradication work in the Scottsbluff district during the past summer. Some of the costs of general supervision were paid from Departmental funds in addition to those listed below:

### Receipts

#### Scottsbluff Fund

Gering Irrigation Ditch -----	\$ 75.00
Farmers Irrigation Ditch -----	200.00
North Platte Valley User's Association -----	250.00
Scottsbluff Co. Farm Bureau -----	200.00
Winters Creek Irrigation District -----	50.00
Mitchell Irrigation District -----	75.00
<b>Total -----</b>	<b>\$ 850.00</b>



Departmental Funds -----	422.15
Grand Total -----	<u>\$1,272.15</u>

**Expenditures**

	Scottsbluff Fund	Departmental Fund
Salary and expense one inspector June 15 to Sept. 15 -----	\$687.50	
Salary and expense one inspector for July -----	100.00	
Office help and expense -----	10.87	
Total -----	<u>\$798.37</u>	
Salary and expense one inspector April 1 to August 1 -----		\$362.15
Salary and expense one inspector part of August -----		50.00
Office help -----		10.00
Total -----		<u>\$422.15</u>

**Summary**

Total receipts -----	\$1,272.15
Total expense -----	1,220.52
Balance on hand -----	<u>\$ 51.63</u>

**AGRICULTURAL STATISTICS**

**Annual Agricultural Statistics.** The Division of Agricultural Statistics is charged with the compilation and publication of crop, live stock and other agricultural statistics as provided by the statutes.

Three main sources of information are made use of in the collection of the data which goes to make up the statistical publications. These are the monthly reports of the local observers, questionnaires on special problems, and the reports of assessors, this latter source furnishing the greatest amount of information.

At the time of the regular assessment, April 1, precinct assessors collect data and it is forwarded to the Department of

Agriculture to be tabulated and summarized. Reports found to be incomplete necessitate considerable correspondence and revising in order that the annual report be as nearly complete and accurate as possible. Reports received by the Department indicate that many farmers refuse to give this information, fearing that it will be used for taxation purposes, or that its publication will adversely affect the price of farm products. These statistics, however, are not used for purposes of taxation, and their publication will tend eventually to more evenly adjust production to consumption and secure a more equitable return to the producer.

**Co-operative Associations.** The work of investigating farmers' co-operative organizations has been continued along similar, yet more comprehensive lines than the two previous annual surveys. The capitalization, credit and accounting methods and management were investigated with greater detail than heretofore in an attempt to determine the weaknesses which are frequently in evidence in these associations. Two hundred and thirty replies to questionnaires were found to be complete enough to use. These were tabulated and analyzed and the results published in the form of Bulletin No 118. Conclusions and constructive suggestions of considerable value to co-operative concerns are contained in this bulletin.

**Registered Live Stock Directory.** Material has been collected for the publication of a Directory of Breeders of Registered Live Stock in Nebraska. The importance of Nebraska in the pure-bred live stock industry is indicated by the fact that it ranks fifth in numbers of pure-bred beef cattle, fifth in swine and sixth in draft horses. A Breeders Directory will be of great value in developing this industry by furnishing reliable information to both breeders and prospective buyers.

**Crop Reporter.** The Nebraska Crop Reporter is issued monthly by the United States Department of Agriculture, Bureau of Agricultural Economics, in co-operation with the State Department of Agriculture, Bureau of Markets and Marketing. Information relating to condition, yield and farm prices of crops and live stock during the year is collected through voluntary observers who report local conditions, and this information is summar-

ized both by counties and for the entire state. These reports also contain estimates and general agricultural information for the entire United States. Special reports are issued at irregular intervals as occasion may seem to warrant.

Much data concerning the production or manufacture of such agricultural products as eggs, meats and dairy products has been collected through questionnaires. A large amount of reference material relating to agriculture is on file for use in publicity, correspondence and investigations and is being constantly supplemented by the recent publications of other states and the United States Department of Agriculture.

### **COLD STORAGE**

**Rules and Regulations.** The cold Storage activities for the past two years have been conducted along lines similar to those of the previous biennium. Rules and regulations governing the operation of cold storage warehouses were issued July 1, 1921 in an effort to clarify and strengthen the law and provide means for its enforcement. Under these rules and regulations the term "cold storage" is defined as "The storage of food at or below a temperature of forty degrees Fahrenheit in a cold storage warehouse"; the term "cold storage warehouse" is defined as "any place having a refrigerating space of 100 cubic feet or more, artificially cooled to a temperature of forty degrees Fahrenheit, or below, in which articles of food are placed and held for sixty days or more. This, however, does not include such a place in a private home." "Articles of Food" is defined as meaning "all articles used for food, drink, confection or condiment by man or animals, whether simple, mixed or compound." These rules and regulations also provide for the marketing, in prescribed form, with lot numbers and entry and removal date of all articles of food placed in cold storage warehouses; outline the form of office records to be kept by cold storage operator and monthly reports to the Department of Agriculture, a time limit from holding food in cold storage and for general sanitation.

**Changes Recommended.** It is highly desirable that certain changes be made in the existing cold storage law in order to enable the Department to exercise closer supervision and regula-

tion of this industry. The present law does not define a "cold storage warehouse" nor does it adequately define "cold storage." It provides for a quarterly report to the Department which has been found to be inadequate and should be changed to a monthly report. The provision which exempts goods intended for interstate trade from requirements of marking of dates of entry in, and withdrawal from, cold storage warehouses should be made to apply to all goods so stored. Authority should be given the Department to demand the withdrawal of food which is unwholesome or stored for the purpose of fictitiously increasing prices.

**Cold Storage Holdings.** At this time 36 establishments are licensed to operate cold storage warehouses in this state, having a total storage capacity of 6,210,987 cubic feet. The following table shows a summarized record of monthly cold storage warehouse holdings for the past biennium:



## NEBRASKA COLD STORAGE WAREHOUSE HOLDINGS—1921 and 1922.

Product	Ja.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Beef (Fresh)	1921	3,266,025	3,077,175	4,036,880	2,302,788	2,270,938	3,117,090	3,149,600	2,859,025	2,618,983	2,369,833	2,145,312
	1922			3,078,158			2,399,184	2,130,674	2,167,303	2,537,920	3,228,834	
Beef Salted	1921			721,393		272,074	362,694	8,483,882	6,004,246	182,581	186,099	633,369
Smoked	1921			2,836,266		728,339	696,533	786,237	773,218	799,037		
Pickled	1921			7,193,468		8,411,318	7,139,653	5,128,683	2,924,652	1,533,429	1,299,873	1,119,702
Pork Fresh	1921			2,307,103		6,636,212	6,885,966	6,369,827	5,287,472	2,729,957		
	1922			2,015,397		2,069,731	4,590,645					
Pork Salted	1921			18,667,629		24,255,193	28,613,151	17,852,428	13,662,954	12,359,690	12,033,647	15,059,831
Smoked	1921			18,433,284		43,730,080	42,265,565	42,497,331	37,558,470	27,282,644		
Pickled	1921			436,622		3,526,151	2,901,983	2,450,148	1,703,290	60	443	60
Lard	1921			60		31,036	28,752	22,916	332			
	1922											
Mutton	1921			220,511		366,025	709,401	398,459	537,453	539,668	489,705	342,715
	1922			366,966		269,649	226,662	174,229	173,862	127,160		
Poultry	1921			469,598		124,592	109,667	258,341	298,105	663,847	1,271,101	1,815,421
	1922			768,419		151,873	106,467	97,221	164,214	453,227		
Eggs (Cases)	1921			86,124		223,746	227,840	214,770	179,516	109,697	42,744½	11,628
	1922			57,156		274,104	292,986	308,578	291,026	165,324		
Eggs Frozen	1921			329,876		765,506	789,301	769,224	602,306	406,258	363,935	297,469
(lbs)	1921			153,165		1,043,281	1,209,821	1,349,680	1,151,268	996,291		
	1922											
Fish	1921			113,959		50,782	47,991	43,525	40,586	100,104	163,114	91,281
	1922			75,099		44,603	36,219	30,255	52,750			
Butter (Cream- ery)	1921			69,619		586,613	951,809	916,909	855,294	686,747	583,510	374,976
	1922			53,031		1,343,363	2,016,009	2,578,484	1,718,291	1,634,121		
Butter (Pkg Stock)	1921			157,723		420,697	77,395	201,070	117,070	22,419	834	26,237
	1922			109,032		62,658	162,113	33,153	335,363	1,602		
Cheese	1921			33,455.		249,751	143,326	193,374	136,459	86,113	55,600	38,748
	1922			16,337		65,491	71,715	37,195	27,362	27,362		
Apples (Boxes)	1921			90,457		3,512	658	889	25	135,060	374,881	341,156
	1922			10,081,961		1,818	556	520	3,051	52,109		
Apples (Bbbs)	1921			1,349						788	623	3
	1922											
Dried Fruit	1921			256,499		1,275,206	1,165,747	907,563	572,820	329,110	127,759	92,845
	1922			63,985		1,313,233	1,431,372	1,153,359	899,169	336,179		
Nuts	1921			238,363		944,138	939,438	818,006	642,547	479,996	468,978	224,835
	1922			401,492		673,251	759,614	500,702	384,759	133,648		
Candy	1921			33,966		91,006	110,183	101,180	107,202	48,091	34,551	17,415
	1922			7,690		37,409	53,816	53,816	39,510	21,600		
Est. Weight	1921			2,501,915		8,780,327	2,391,671	4,539,176	1,576,949	4,135,806	4,717,398	3,083,281
Miscel. Items	1921			29,657,927		1,813,868	1,228,083	1,066,571	1,337,500	1,018,897		
	1922											

Note: Only quarterly reports were required prior to July 1, 1921. Data for November and December 1922 not available at time of compilation.



## APIARY INSPECTION

**Bee Husbandry Law.** During the past two years the Department has devoted a limited portion of its attention to the bee industry of the state. For many years a law pertaining to this branch of agriculture was carried on the statute books, but because of its impracticability as a workable law, it remained inactive.

The census of 1920 shows that 9,113 farms in Nebraska reported having 45,625 stands of bees valued at \$206,326.00. The presence of foul brood and other diseases was known to be a serious handicap to bee keepers in many parts of the state. In 1921 the Legislature passed a bill known as the Bee Husbandry Law, with the object of aiding the bee keepers of Nebraska in freeing their colonies of disease. No provision was made for financing the operation of the law and consequently but a very limited amount of work has been accomplished in respect to bees.

**Demonstration Project.** Enforcement was assigned to the Bureau of Markets and Marketing and the work which has been carried on was done by its inspectors with no additional expenditure of funds. The activity was conducted in the form of a demonstration project in Douglas county where at the request of the bee keepers association an investigation of conditions was made in the spring of 1922 and the situation in regard to disease was found to be serious, especially in the territory tributary to Omaha. It was found that lack of knowledge of bee diseases and methods of treatment, together with carelessness on the part of those who kept small numbers of bees as a side line, were mainly responsible for the prevalence of foul brood in that territory. As a result of this investigation an inspector was assigned to Douglas county, working half time during most of June and July in 1922. This work fully confirmed the findings of the investigation of which previous mention was made. A condensed report of the inspector's work follows:

Total colonies examined .....	477
Colonies infected with American Foul Brood .....	116

Colonies infected with European Foul Brood	-----	80
Colonies infected with other disease	-----	18
Colonies found with stationary combs	-----	25
Colonies approved	-----	238

The above report shows that 45% of the colonies examined were diseased. Twenty-one colonies were ordered destroyed and the other diseased colonies were ordered to be treated. The work of re-inspection was halted because of the extremely dry weather which caused a light honey flow and made it inadvisable to continue the work.

**Appropriation Needed.** In order that the provisions of the Bee Husbandry Law may be carried out in the future, it will be necessary for the legislature to make an appropriation for this activity. The volume of work which could be done will depend entirely upon the amount of funds available. With a limited appropriation it would be possible to organize only one or two projects for demonstration purposes. These could be located in the counties where the greatest interest is shown in this line of work. Should the funds be sufficiently large it would undoubtedly be advisable to organize the work on the basis of appointing local inspectors within the county, possibly on a per diem basis and have the work carried on under the supervision of a general inspector attached to the Department.

## FARM WAREHOUSE LAW

**Purpose of Law.** This law was passed as an emergency measure by the 1921 session of the legislature. It provides for the licensing of farm warehouses where wheat, corn or other grain is held in storage, and against which negotiable warehouse receipts may be issued. Any farm owner or tenant desiring to take advantage of the provisions of the act must first file with the county clerk an application for a license. If upon investigation the buildings are found to be suitable structures in which to store grain, the county clerk will issue a license designating the building as a farm warehouse.

**County Inspections.** For the purpose of carrying out the provisions of the act, the county board of each county is author-

ized to appoint a competent warehouse inspector who is a resident of the county and who serves under bond. His duties consist of monthly inspections of grain, collection of fees and issuance of warehouse receipts on forms prescribed and approved by the Department of Agriculture and the Attorney General.

**Operation of Law.** Since this measure went into effect in April, 1921, several farmers in Thurston county have taken advantage of the provisions of the law. According to reports filed, four warehouses receipts were issued covering about 16,000 bushels of grain. The slight disposition shown to take advantage of the provisions of this act, indicates this law to be of doubtful value in its present form. Perhaps the best means of extending aid to the grain growers of Nebraska in this respect would be a repeal of the present Public Warehouse Act which would make it possible for the enactment of a measure similar to the Federal Farm Warehouse Act under state or federal supervision.

**New Law Desirable.** There seems to be a conflict at the present time between the provisions of the Grain Warehouse Act enforced by the State Railway Commission and the provisions of the Federal Public Warehouse Act. This being the case and the present Farm Warehouse Law in its present form not being practical, it is recommended that both acts be repealed and a new Public Warehouse Law enacted which will be sufficiently broad to take care of this subject not only at terminals but also to include general provisions for shipping points and storing of farm products on the farm. A Public Warehouse Law of this kind should not be in conflict with federal legislation and should be enforced under federal or state supervision.

The advantages obtained under an act of this kind would be three fold:

1. It would provide storage space for farm products.
2. An adequate system of grading could be employed which would provide a higher quality basis for the commodity.
3. Receipts could be issued for products in storage which would furnish a basis for loans. At the present time an adequate system of storage of farm products is undoubtedly one of the greatest needs of agriculture in the state.

**COMMISSION MERCHANT LAW**

**Law Inadequate.** The present Commission Merchant Law, pertaining to the licensing and bonding of firms doing a commission business within the state has been outgrown within the last few years by many of the firms coming under its supervision. Due to the volume of business and to the value of consignments entering into the present day transactions of most firms doing a commission business it is readily recognized that a bond of \$2,000 is inadequate.

**Changes.** At the last session of the legislature an attempt was made to have this feature of the law strengthened, and to secure other provisions for a closer regulation of commission practices generally. The proposed bill, which corresponds closely to the Kansas Commission Merchants' Law, gives the Secretary of the Department authority to pass on the nature and size of bonds to be required, based on the volume of the business conducted. Another provision was that granting authority to investigate and aid in the settlement of disputes arising between the consignor and the commission firm. These were the principal changes proposed in the bill introduced for the purpose of strengthening the existing law.

**Operation of Law.** During the past biennium there have been a number of complaints from shippers who were unable to obtain payment for commodities consigned on a commission basis. In each case thorough investigations were made and in some instances resulted in the payment for the commodities by the consignee. In other instances the commission merchant has become insolvent and the only recommendation that could be made was that civil proceedings be started by the consignor on the \$2,000.00 bond which had been furnished, if the commission merchant was duly licensed under the law. In several instances this bond was inadequate to cover the value of the products involved.

**Revision Needed.** In view of the fact that federal legislation has been passed providing for supervision of terminal live stock markets, it is barely possible that this phase of work provided for in the Commission Merchant Law may be taken care



of after the Federal Law becomes operative. This will have no bearing, however, on other lines of agricultural products which may be consigned to commission firms and especially those which are intra-state shipments. It is for this reason that ample protection may be provided growers and shippers consigning their products.

**Commission Firms.** Commission firms operating under the provisions of this law totaled 123 in 1921; during 1922 there were 128. These concerns are classified as follows:

	1921	1922
Eggs, Poultry and Butter -----	2	2
Fruit and Vegetables -----	11	10
Grain -----	35	42
Hay and Grain -----	15	11
Live Stock -----	55	57
Miscellaneous -----	5	6
<b>Total -----</b>	<b>123</b>	<b>128</b>

### MARKET REPORTING

**Sources of Information.** In order to meet an urgent demand for market reporting service the federal leased wire was obtained in the summer of 1921. From this source the latest quotations on grain, livestock and produce were received from the principal markets. The information collected from this source was supplemented by personal investigations and from other sources of a reliable nature so that each day the Bureau was in possession of a large volume of the latest authentic market data.

**Issuance of Reports.** After solving the problems of assembling this information the next task was to disseminate it effectively for on that depended the ultimate value of the service. A program involving the daily and weekly issuance of reports was adopted at that time and this program has since been adhered to with but slight variations. The program is as follows:

Daily collection and reporting of the Omaha markets for Omaha newspapers.

Daily issuance of wholesale market reports to local newspapers.



Issuance of market news articles to newspapers.

Daily issuance of market reports for broadcasting by radiophone.

Daily issuance of cooperative potato market bulletins to producers and buyers.

Weekly market summaries to newspapers of the state.

**Omaha Markets.** Because Omaha is one of the primary markets of the country and the market center of the state, the reporting of the market at that place was deemed of sufficient importance to warrant a separate service for Omaha newspapers. Since the summer of 1921 the daily markets, covering all live stock, grain and provisions, have been collected and reported to four newspapers in that city, the Bee, World-Herald, Journal-Stockman and Daily News, which have a combined circulation in excess of a quarter of a million and are read by more than a million people.

**Radio Reporting.** Broadcasting by wireless was also commenced in the summer of 1921, through a co-operative arrangement with the University of Nebraska Engineering Department, the Physics Department of Wesleyan University and Geo. E. Johnson Jr., at Lincoln. This arrangement proved satisfactory for the time being but as the service grew in importance the need was felt to have the work centralized within the Bureau. Consequently, during the summer of the present year a wireless station was installed in the State House and since October 1 all broadcasting has been done from this station. All of the equipment for the station was purchased and installed at a great saving over the usual cost as the parts were purchased separately and assembled by state employees at no extra expense. Since broadcasting was begun on the regular daily schedule the service has shown a steady growth until at the time this report is made, December 1, almost 350 stations are receiving the daily markets. The numerous letters received by the Department have shown that increasing numbers of farmers have been taking advantage of the reports thru the use of their own receiving sets. It has also become a practice for co-operative associations, elevators, banks and stores to keep the latest information posted for the benefit

of their customers. These communications have further indicated that the reports sent out from this station are considered very complete and accurate. The number of people actually reached by this service is difficult to ascertain or to estimate accurately but when it is recalled that many daily and weekly newspapers have their own receiving sets, the number of people to whom the information becomes available is very large.

**Daily Potato Reports.** In the last few years the potato industry has greatly developed in this state, and marketing the major part of this perishable crop within a period of a few months constitutes a problem requiring intensive co-operation between the producers and the various marketing agencies. Prior to 1921 this Bureau carried on practically no activities in connection with marketing of potatoes other than the grading and inspection of car lot shipments at point of origin. During the summer of that year a co-operative agreement was entered into with the U. S. Bureau of Markets whereby daily reports were issued from Kearney for the eastern district and later from Alliance for the western districts. These daily reports included such items as

Car lot shipments by the various states.

Wire reports from the principal terminal markets giving receipts, prices, diversions, demand, etc.

Primary destination of Nebraska shipments.

Shipping point information relating to weather, loading price, etc.

Weather forecast for Nebraska.

**Field Headquarters.** These reports, which are mailed free of charge to all who apply, were issued from Kearney between July 4 and August 1, and from Alliance between August 1 and December 1. At the close of the season a complete summary of the season's activities in each district was issued. The summaries included acreage, production, destination of car lot shipments, including comparative yields of the various states. This year a similar program has been followed, except that the Kearney office was maintained until September 12 when headquarters were moved to Alliance.

**Reports in Demand.** Following the closing of the field office last year, semi-weekly reports were issued from the office at Lincoln. Between Nov. 18, and March 17 of this year, 34 of these reports were published. The mailing list for the potato reports last year was slightly more than 900 but this year has been close to 1,100.

**Weekly Summaries.** Weekly market summaries have been furnished to approximately 159 newspapers of the state since the summer of 1921. These cover the movements and market tones of grain, livestock, produce and potatoes for the principle markets. About half of the papers have received the service through the Western Newspaper Union at a minimum expense while the remainder have been supplied from this office. The combined circulation of all newspapers publishing information furnished by this Bureau is approximately 490,000.

## AGRICULTURAL NEWS AND PUBLICITY

**Powers Granted.** Following out the provisions of the law that the Department of Agriculture shall serve as an information agency regarding the resources, industries and development of the state, the Bureau of Markets and Marketing has exercised this power during the past two years. It is only through the various channels of publicity that a proper conception of the extent and development of the various agricultural industries may be made possible.

**Bulletins.** In this connection six bulletins have been printed and distributed during this biennial period, dealing with subjects as indicated:

- Nebraska at a Glance
- The Poultry Industry
- The Potato Industry
- The Dairy Industry
- Agricultural Nebraska
- Opportunities in Western Nebraska

**News Articles.** To supplement the subjects dealt with in bulletin form, newspaper articles on current topics, such as the progress of disease control, market conditions and other matters

in connection with the work of the Department have been furnished the press for publication since the spring of 1921. This form of publicity is to be regarded as the most effective means of keeping the public advised on the progress of activities carried on by the Department. It has the advantage of being flexible; it places the desired information in the reader's hands quickly; and is a highly essential part of any organization carrying on educational and law enforcement activities. Marked progress has been made in this division of the work but in the future it is desired to see it assume the proportions that it justly should in order to make the Department's activities of the greatest benefit.

# BUREAU OF GAME AND FISH

## DIVISIONAL ACTIVITIES

Inspection and Control	Conservation and Distribution	Fish Culture
<p>Issuing of licenses relating to hunting, fishing and trapping.</p> <p>Enforcement of all laws relating to game, fish and fur bearing animals.</p>	<p>The protection of game through establishment and supervision of game preserves and bird sanctuaries.</p> <p>Preservation of fish from temporary waters and distribution to permanent waters.</p> <p>Distribution of game birds.</p>	<p>Propagation of game fish at different state hatcheries.</p> <p>Distribution of game fish to streams and lakes of the state.</p>

## CHANGES IN THE LAW

The Game and Fish law was completely revised during the 1921 session of the legislature, the purpose being to provide for a more constructive policy and to secure a more rigid enforcement of protective and conservation measures. In pursuance of this policy the Department was given authority to promulgate rules and regulations, when found necessary and desirable, to supplement the law itself. The most important changes in the law are noted in the following paragraphs.

**Game Birds.** The shooting season for prairie chickens and grouse was changed to open October 1st instead of October 15th. Allowing the season to open fifteen days earlier provides a considerable advantage to hunters, but reduces the time in which the birds may mature. This action, however, was the result of a compromise of the contending factions for an early and a late open season. As the season progresses these birds become wilder and less desirable for edible purposes, yet it is felt that sportsmen and hunters should be in accord with a certain amount of protection so that the number of these birds may not be seriously depleted in any one season.

The use of a rifle, swivel gun or any gun larger than ten gauge for hunting purposes is prohibited for the reason that fire arms of the larger calibers are too destructive in their effects.

**Fish.** The fish law was revised with the purpose of pro-



viding as liberal a public policy as possible without impairing the fish supply of the state. With this purpose in view angling for all species except trout and pike is permitted throughout the entire year, a change which has undoubtedly resulted in the saving of thousands of fish from perishing, on account of the large number of holes cut in ice for fishing purposes during the cold months. Lawful fishing at all times of the year is a marked benefit to many people in different sections of the state, for certain species of fish contribute in a large way toward their food supply.

Catfish and bull heads are now classed as game fish, because they are one of the most desirable fish for food purposes found in the state and should receive the same measure of protection given the true game fish.

The sale of game fish, taken within the state, on public markets is prohibited, as well as the use of powder, poison or other such means of destruction which would destroy fish in large numbers.

**Fur Bearing Animals.** The open season for squirrels was extended for the reason that in many localities these animals often become a pest and are destructive to growing crops, as well as to stored grain.

The manner of issuing permits to destroy beaver was changed so that now examination of the extent of damage done by these animals is the basis for granting the privilege to destroy them. The deputy game warden in the particular area usually makes the investigation and makes a recommendation as to the advisability of issuing a permit, and also suggests the length of time such permit should remain in force.

The use of ferrets, rabbit coursing, and the running of bird dogs during certain seasons of the year are unlawful, these provisions being in line with extending greater protection to fur bearing and other specimens of game animals.

**Licenses and Permits.** All persons engaging in hunting, fishing or trapping are now required to procure a license, if over 16 years of age. The age limit was reduced from 18 years due to the fact that each year a much larger number of persons, including boys, are engaging in hunting, fishing and trapping.

Persons desiring to collect birds, frogs, spawn or fur bearing animals for scientific purposes must secure a permit; and anyone engaging in the raising of game birds or fur bearing animals must do so under license. Firms purchasing the raw hides of fur bearing animals are required to operate under a license, because in this manner it is possible to maintain a closer check on killings before and after the various open seasons.

**Other New Provisions.** Authority is given the Department to establish dead lines around certain areas or bodies of water for game protection.

All school sections and national forest areas in the state are declared a game reserve and bird refuge, while authority is granted for the creation of other reserves when found desirable.

Other new provisions relate to dams and fishways, game farming, trespassing on forest reserves and the transportation of game, all intended to provide stricter regulation of conservation of game within the state.

## FUNCTIONING OF BUREAU

**Game Conditions.** Through the work of conservation, distribution and law enforcement steady progress has been made toward the end that Nebraska will again be populated with game and fish which will not only furnish hunting, trapping and fishing for the public at large, but will be a source of food supply as well. Game once practically extinct, due to the wanton destruction by hunters and sportsmen, is again becoming a familiar sight in many sections of the state. Species of fish found to be adapted to waters of the state have been imported, propagated and distributed along with other game, so that Nebraska is now one of the few states where ducks, grouse, prairie chickens and fish, including black bass and trout, may all be secured in the same season. --

During the last two years more prairie chickens and grouse have been in evidence than for many years previous. This is without doubt due to the protection given these birds through the enforcement of the game laws.

Fur bearing animals of different species may be found in different sections of the state. On the federal reserve in Thomas

county there are now thirty-five or more head of deer and with continuation of proper protection this number will gradually increase. Antelope exist in Kimball, Banner, Sioux and Garden counties in considerable numbers. Beaver are numerous along the Niobrara, Platte and Republican rivers, including other streams and many irrigation ditches in the western part of the state, as well as in eastern Nebraska along the Missouri river.

**Fishing Conditions.** It can be said that with very few exceptions, the fishing conditions have been especially good the past year over practically the entire state. In the sand hill lakes perch fishing has resulted in large catches as a rule both winter and summer. Bass fishing the past summer has been better than at any time since the disastrous freeze in the winter of 1915. These conditions have existed in all of the western lakes as well as the lakes and ponds in the eastern part of the state, with the exception of Carter Lake. Good fishing was enjoyed on this lake during the 1921 season but anglers who have fished this lake for many years report the fishing has been poor the past summer both for bass and croppie. There have been numerous theories advanced for this altered condition. The coarse fist seining has been held responsible by some, but it is more likely that low water conditions, together with the increase in both motor and other water craft may have affected the shing.

Croppies have been taken in large numbers from nearly all the sand pits and lakes which have been stocked with this species. Channel and other catfish have furnished a large part of the fishing sport. The large fish of this species have not been taken in former numbers but from all reports there seems to be no marked diminution in the number of smaller fish.

Pike fishing has been good on the North Platte river from Bridgeport to the Wyoming line and some fair catches have also been taken from the Loup rivers but angling for this fish has not been so good as in former years on the lower Platte, Blue and Elkhorn rivers. In regard to trout fishing the deficient rainfall of the past two seasons has been somewhat damaging but good catches have been made on the Long Pine creek, White river, Bordeaux and other streams along the Northwestern railway and also in the spring fed streams along th North Platte valley.

Many species of small game are also abundant throughout the state as may be judged from the fact that the value of muskrat hides annually exceeds \$1,500,000, skunk hides \$1,000,000 and furs of other game an additional million dollars.

## INSPECTION AND CONTROL

**Enforcement.** The work of inspection and control of the Bureau consists of the enforcement of the provisions of the Game and Fish laws. The Deputy Game Wardens have been equipped with Ford cars and camping outfits, traveling their territory and camping where night overtook them. In this way it has been possible to maintain strict enforcement of the laws, through the ability of the Wardens to cover a considerable amount of territory each day. During the spring and fall for several weeks prior to the opening of the shooting season it is necessary to increase the force in the field for it is at these times that the greatest number of violations are liable to occur. Throughout the remainder of the year it has been the policy to maintain a smaller number of men in the field who are fitted by training and experience to perform the various duties requiring attention within the area over which they have jurisdiction. It is desirable to have these men on a permanent basis and in this way provision would be made for the training of new men during the summer for duty in the fall and spring.

**Increase in Game.** Elimination of spring shooting and the drastic enforcement of the game laws in the past four years are the primary reasons for the increase in the number of water fowl and other game birds native to the state. Many other fowls were formerly killed during the spring or forced to migrate farther north that now remain in the sand hill region during the entire summer. This has caused a natural increase in the number of water fowl in the state.

The rigid enforcement of the laws during the closed season has naturally increased the number of prairie chickens, grouse, pheasants and quail, and the sportsmen of the state would undoubtedly be the best judges as to the increase in the number of these birds in the last few years. With the strict enforcement of the game laws there is no reason why this number of birds



should not increase and good shooting be provided for years to come.

**Special Deputy Game Wardens.** In addition to the regular deputy game wardens employed on a salary basis there are appointed from time to time, special deputy game wardens in different sections of the state who act as enforcement agents without remuneration. It has been the policy to attempt to effect a voluntary organization in addition to the regular personnel who could render valuable assistance not only in the actual enforcement of the Game Laws but who would be in a position to furnish information of violations which form a basis of investigation for the regularly employed game wardens. A report is required from each special deputy at the end of the year and in cases where no work has been performed and the appointees have rendered no service to the Department they have not been re-appointed the following year. By this means it has been possible to retain only those who were active and were an asset to the field forces. The following list comprises the special deputy game wardens who were appointed during the current year:

County	Name	
Box Butte	Lloyd C. Thomas	Alliance, Nebr.
Buffalo	S. M. Sweeley	Kearney, Nebr.
Buffalo	Evan F. Smith	Shelton, Nebr.
Cass	W. B. Dale	Nehawka, Nebr.
Cass	E. M. Griffin	Nehawka, Nebr.
Cass	Ernest W. Millburn	Murray, Nebr.
Cedar	Byron L. Fowler	Laurel, Nebr.
Chase	Frank E. Cady	Champion, Nebr.
Cherry	Ernest Fischer	Irwin, Nebr.
Cherry	Homer Rupert	Wood Lake, Nebr.
Custer	Wm. Rosentrater	Arnold, Nebr.
Dakota	F. C. Gilbert	So. Sioux City, Nebr.
Deuel	Ernest Stegeman	Chappel, Nebr.
Dodge	Oscar Hansen	Fremont, Nebr.
Douglas	Dan Geilus	Omaha, Nebr.
Douglas	Buch Ames	Omaha, Nebr. 2121 Grace
Douglas	Dr. C. E. Larson	Elkhorn, Nebr.
Douglas	Dick Pfeffer	Omaha, 1507 N. 19th
Douglas	Frank Pipal	So. Omaha, R. F. D. No. 4
Dundy	E. J. Brown	Haigler, Nebr.
Franklin	Claude D. Hayden	Curtis, Nebr.
Furnas	E. P. Hoffman	Oxford, Nebr.
Gage	Dudley C. Scott	Beatrice, Nebr.
Hall	Henry Frauen	Grand Island, Nebr.
Hall	C. F. Auhl	Grand Island, Nebr.
Hamilton	L. C. Harvey	Phillips, Nebr.



Harlan	John Q. Holmes	Orleans, Nebr.
Harlan	M. E. Kissel	Republican City, Nebr.
Holt	L. B. Haneman	Ewing, Nebr.
Lancaster	Buck Taylor	Lincoln, Nebr. Richards Blk.
Lancaster	John T. Dorgan	Lincoln, 2710 Woodcrest
Lancaster	W. C. Dunker	Lincoln, 1436 Washington
Lincoln	Chas. H. Watts	North Platte, Nebr.
Morrill	John J. Blair	Redington, Nebr.
Morrill	R. K. Thomas	Angora, Nebr.
Morrill	Earl J. Keil	Bayard, Nebr.
Nuckolls	F. G. Hartman	Nelson, Nebr.
Polk	J. T. Stanton	Stromsburg, Nebr.
Richardson	Wm. Kentopp	Falls City, Nebr.
Richardson	F. F. Farrington	Falls City, Nebr.
Sarpy	H. B. Gates	Fort Crook, Nebr.
Sarpy	James C. Baldwin	Bellevue, Nebr.
Sarpy	H. P. Larsen	Bellevue, Nebr.
Saunders	Frank Koutney	Wahoo, Nebr.
Saunders	J. E. Vlack	Wahoo, Nebr.
Saunders	Ed. Hotz	Ashland, Nebr.
Scotts Bluff	Chas. Williams	Lyman, Nebr.
Seward	Herman Nave	Milford, Nebr.
Stanton	Geo. W. Dodge	Stanton, Nebr.
Stanton	Vernon Alden	Stanton, Nebr.
Thurston	John Ross	Walthill, Nebr.
York	W. K. Geer	York, Nebr.

**Seining in Missouri River.** The present law provides that a license may be issued to applicants desiring to seine in the Missouri River. A surety bond of \$200.00 is required of each applicant, in addition to the fees for the different types of devices to be used in carrying on the work. The bond serves as a guarantee that the person to whom the license is issued will comply with the provisions of the statutes and has proven very satisfactory. In addition to the bond, the Department would have authority, however, to revoke any licenses issued if the persons were inclined to persist in violating the privileges which had been granted. During the past biennium there have been 69 licenses issued for the year 1921 and 113 licenses for the year 1922.

**Beaver Permits.** Permits to destroy beaver may be issued to persons who make application and show that sufficient damage is being done to warrant the issuing of a permit. These permits are issued upon the recommendation of the deputy game warden of the district who makes an investigation of the extent of damage done and designates the length of time over which the permit should extend, which may vary from 15 to 60 days. Hides of all animals killed under permits must be forwarded to the

Department which makes disposal of them by auction and divides the proceeds equally with the holder of the permit.

The number of beaver permits has materially increased during the year 1922, for the reason that there has been considerable damage done due to larger numbers of these animals. It is possible that during the winter a still greater number of permits may be issued due to the menace of beaver which has been brought about by a rigid enforcement affording them protection.

The number of beaver permits issued during the biennium is shown below:

	1921	1922	Total
To destroy beaver -----	34	100	134
To transport beaver hides	106	39	145

**Scientific Permits.** A number of years ago scientific permits were freely issued and consequently had reached the point where the privilege was greatly abused. Under the provisions of the present law during this biennium these permits have been held to a minimum and are only issued to individuals or persons directly connected with a recognized educational institution and engaged in some form of biological or ornithological work. During the time when these were issued to commercial taxidermists it was a common practice to make every effort to obtain rare species which was a means of entirely eliminating the ones that were recognized as being comparatively rare. This policy has undoubtedly been a means of conserving many birds during the propagating season which were formerly destroyed under this system of permits.

The permits issued each year of the biennium follow:

Scientific permits: -----	1921	1922	Total
	5	6	11

**Licenses.** Special attention is directed to the fact that on the whole, the number of hunting licenses issued has steadily increased from year to year. There is more or less of a direct correlation between the number of licenses issued and the number of game wardens stationed in the field, but the large part of the increase is undoubtedly due to the greater interest shown by the

general public in regard to hunting and fishing. It is natural that this should be the case as game becomes more plentiful and better fishing facilities make angling worth while.

**Convictions.** The following table shows the number of convictions obtained as a result of prosecutions filed for violation of the game laws:

1919-1920	-----	529
1921-1922	-----	1241

### CONSERVATION AND DISTRIBUTION

The work of this Bureau in connection with the conservation and distribution of game and fish is regarded as one of the most important branches of its activities. The saving of birds and game from starvation or perishing through lack of proper care in other ways is an important service, but the rescuing of fish from waters which have become low and their transfer to permanent waters is perhaps a service of considerably greater extent and value.

**Game Reserves.** During the last biennium two game reserves were established, one near Fairbury and the other near Omaha, having a combined area of 2,753 acres. These two reserves have been posted, and together with the national forest reserves at Halsey and Nenzel include a total area as follows:

Bessey Division, Nebraska National Forest	
near Halsey -----	94,670 acres
Niobrara Division, Nebraska National Forest	
near Nenzel -----	123,138 acres
Fontanelle Forest Reserve near Omaha -----	2,543 acres
Game and Bird Reserve No. 1 near Fairbury	190 acres
<b>Total</b> -----	<b>220,541 acres</b>

This area in different sections of the state provides a game reserve and bird sanctuary which has undoubtedly been a means of materially increasing the number of wild animals, game birds, and birds in the past year. Work along this line should be extended and every encouragement given to establish additional

reserves and bird sanctuaries to afford protection to wild life, especially during the propagating season.

**Pheasant Distribution.** During this biennium three car loads of phaesants, mostly of the Chinese Ring-Necked variety, have been distributed to farmers and others who made application for birds. These birds were secured from pheasant farms at Silvertown, Oregon, and St. Charles, Ill., and were distributed without cost to the parties who received them. Many applications remain on file which could not be taken care of this year owing to the fact that only a limited amount of stock can be secured in any one year from existing pheasant farms. The chief value of phaesants lies in their insectivorous nature which makes them valuable in combatting insect pests in sections where much damage results to crops from this source. These birds have become quite numerous in Howard, Sherman, Valley and Greeley counties where a limited number were distributed for the first time a few years ago. Continued importations in limited amounts should result in a great increase in the numbers of these birds within a few years and cause a considerable addition to the game supply of the state.

The following table shows the distribution made during the past year:

County	No. of Birds	County	No. of Birds
Antelope -----	29	Johnson -----	12
Boone -----	6	Keith -----	47
Boyd -----	24	Keya Paha -----	6
Brown -----	32	Kimball -----	13
Buffalo -----	11	Knox -----	47
Burt -----	18	Lancaster -----	3
Butler -----	11	Lincoln -----	80
Colfax -----	3	Madison -----	21
Chase -----	15	Merrick -----	24
Cherry -----	27	Morrill -----	37
Cheyenne -----	18	Nance -----	3
Clay -----	12	Nemaha -----	18
Cuming -----	21	Otoe -----	15
Custer -----	3	Pawnee -----	6
Dixon -----	3	Pierce -----	9



Dodge -----	3	Platte -----	12
Dawes -----	47	Polk -----	12
Dawson -----	38	Phelps -----	5
Deuel -----	6	Redwillow -----	30
Dundy -----	32	Richardson -----	9
Fillmore -----	16	Rock -----	12
Fronteir -----	10	Saline -----	9
Furnas -----	24	Saunders -----	3
Gage -----	18	Scotts Bluff -----	75
Garden -----	29	Seward -----	6
Gosper -----	12	Sheridan -----	15
Grant -----	21	Sioux -----	3
Hall -----	3	Stanton -----	6
Hamilton -----	3	Thurston -----	12
Harlan -----	24	Wayne -----	3
Hitchcock -----	16	Webster -----	12
Holt -----	29	York -----	6
Jefferson -----	9		
		Total -----	1,144

**Fish Conservation.** The rescue of fish from overflows, ponds and streams where the waters have become low and their restoration to permanent waters is regarded as one of the most important and profitable activities in connection with the fish work. In this way thousands of valuable fish have been kept from perishing which would otherwise have been a permanent total loss and their replacement could only have been accomplished at a great outlay of time and expense.

During the previous biennium conservation work was not possible on a sufficient scale to be of great importance because of inadequate funds for meeting the necessary expenses in connection with the work. Within the past two years, however, and the past year especially, it has been possible to develop an organization of a permanent nature and to carry on the work in an efficient manner in many different parts of the state.

Wherever it has been found that game fish of sufficient size and numbers to justify the expense of saving, were in danger of perishing, a seining crew has been placed at work without delay. For this purpose it has been the policy to train men at the various



fish hatcheries for conservation work so that they may be available for work in the field as well as at the hatchery.

Owing to the large number of overflow ponds along the Missouri river the major portion of the conservation work has been carried on in that section of the state, but considerable work has also been done in other parts of the state. Conservative work has been carried on during the past two seasons near Jackson and Sioux City, Dakota county; Peru, Nemaha county; Nebraska City, Otoe county; Bellevue, Sarpy county; Calhoun, Washington county; Ashland, Saunders county; Hyannis, Grant county; Columbus, Platte county; Decatur, Burt county; Swan and Inez, Holt county, and at many other points. Two crews are at work this fall, one transferring adult pickerel from the shallow waters of Cottonwood Lake in Holt county to deeper lakes, and the other crew transferring croppie and other game fish from Stillwater slough to Horseshoe Lake in Washington county, and other points in eastern Nebraska where conservation was deemed necessary. This work will be continued until the weather is too cold for successfully handling fish.

#### **Permanent Conservation and Culture in Lake Regions.**

During the past year it has been found that a seining crew could be utilized from early spring until late in the fall in conserving fish in regions of the state where a group of lakes is located. Such work has been carried on in the lake region of southern Holt county. Thousands of fish have been seined and distributed to deeper lakes in the same vicinity and in this way a great deal of good has been accomplished. After a number of months of this type of conservation work it was found that a site could be purchased or obtained under a long time lease. If this were done, temporary buildings could be constructed which would be used as a central point from which to carry on the conservation work in such group of lakes. If the site selected offered opportunities for fish culture work, which is nearly always the case, this could be carried on by doing a certain amount of work during the spawning season in the spring and, if necessary, detailing one man at the base during the summer and in the fall of the year. The hatch could be distributed to the best lakes in the group. A lease of this kind could be obtained for a nominal sum and the cost of carrying on the propagation of fish would be

nominal compared to the work at the hatchery where the overhead would be much larger. In addition to this, a location of this kind would prove of inestimable value for carrying on the seining and conservation work at any time during the year when it became necessary to do so. In addition to this, the buildings would provide shelter in case it were necessary to have someone stationed there during the severe winter months to provide air holes in the lakes, so that the fish would not be subject to perishing for lack of air.

This plan could very well be extended to the lake region of Cherry county where a similar station could be established. Another might be established in northern Garden county which is a very promising group of lakes for this line of work.

It is recommended that a policy of this kind be developed rather than the expenditure of large sums of money for the purchase of new fish hatcheries or sub-stations which might be located in regions less favorable at a much greater expense.

**Distribution.** The fish that were conserved through the work of conservation were distributed to permanent waters within the shortest distance and which required stocking. Many of the fish were placed back in public waters as lakes, rivers and smaller streams, but an effort has been made to establish other fishing places for the public use. In cases where fish were placed in ponds, sand pits or private lakes without expense to the owners, it is required that free access shall be permitted to the public. Of late years there has been an increasing tendency on the part of land owners to prevent fishing on their premises and for this reason greater efforts should be made to provide added fishing facilities for the general public use.

The following summary shows a comparison of the conservation and distribution work for the present biennium with the preceding one. It will be noted that the work has been more than doubled during the past two years.

	Dec. 1919 to Dec. 1920	Dec. 1920 to Dec. 1922
Black Bass (Large Mouth) -----	3,000	2,298
Black Bass (Small Mouth) -----		150
Rock Bass -----	2,000	
Croppies -----	20,000	28,072
Perch -----		16,025
Bull heads -----	185,500	547,300
Cat Fish -----		13,750
Sun Fish -----	13,900	18,340
Rain Bow Trout -----		1,000
Gold Fish -----		6
Bull Frogs (Tadpole) -----		
Striped Bass -----		25
Silver Bass -----		230
Pickrel -----		764
Pike -----		410
Suckers -----		50
Carp -----		600
Buffalo -----		4,000
<b>Total</b> -----	<b>224,400</b>	<b>632,720</b>
Gar Destroyed -----		9,000

### FISH CULTURE

**Hatcheries.** The three fish hatcheries located at Gretna, Valentine and Benkelman have been developed so that the annual production has been greatly increased. The Gretna and Benkelman hatcheries have reached their capacity because no more space is available for additional ponds. At the Valentine hatchery the pond area has been increased every year until at the present time it is almost 50 acres in extent. It is still possible, however, to add additional ponds from year to year at a comparatively small expense which will materially increase the production over the present volume.

The appropriation made by the last legislature for the location of a fish hatchery in Garden or Lincoln county, one for which an appropriation of \$10,000 was made and the other for a retaining pond near Peru for which the sum of \$2,000 was ap-

propriated, have not been located up to the present time. In the first instance sites were investigated in both Lincoln and Garden counties but it was found that these were not available because either a clear title could not be obtained or a sufficient area of land adequate for fish culture purposes could not be secured. In the case of the appropriation for Peru it was found that a retaining pond was not essential to carry on the work, in view of the fact that the water becomes low during the fall of the year and that it was more economical to distribute the fish directly by truck and fish car rather than put them in a retaining pond.

The appropriation for these two projects has not been used and will either revert to the treasury or may be available for the last six months period of the present biennium.

### **GRETNA HATCHERY**

**Improvements.** There have been no new buildings erected at this hatchery during the past two years but all necessary repairs have been made to buildings, including new roofs on the spring house and reservoir. Two coats of paint were applied to all buildings, fences and other wood work which greatly improved the appearances as well as condition. Some of the ponds have been deepened by the removal of accumulated mud, and considerable sodding, grading and ditching have been done where needed, in addition to the building of a new road to replace the old one which had become unsatisfactory. In the Platte river along the public road bordering the grounds two dikes of trees and rocks were built to prevent further erosion of the river banks. The expense incurred by this work was borne jointly by the state and the county. From the small amount of improvement work done during the two year period it would indicate that this hatchery is in very good condition which is actually the case.

**Pond Area.** No increase has been made in the pond area for the reason that all land suitable for pond construction has been utilized. The present water supply from the springs is hardly sufficient to maintain a proper level in the 25 ponds during the dry periods, which is an additional reason why the limit of pond expansion at this hatchery has been reached.



**Increased Output.** Every effort has been made to increase the annual production from this hatchery, especially in regard to bass and trout, and while the distribution for this season has not been completed at the time this report is written the distribution sheets will show a marked increase over former years. The size of the fingerling bass has also run larger than before, some of the minnow fed weighing as much as six ounces at five months of age. Another factor adding to the increase of output was the adoption last winter and spring of a new plan of planting trout. As fast as the fry became of feeding age they are sent out by messengers. Under the old system they were held too long under crowded conditions, often resulting in weak fry and considerable loss, and while the new method is somewhat more expensive, better results fully justify the increased cost.

**Many Calls for Pike.** For the past four years there have been no pike hatched at the Gretna hatchery, but a good many calls have been received for this species from time to time and it would seem that the resumption of pike hatching on a moderate scale is advisable. All reports show there have been a noticeable decrease in the number of pike in the lower Platte river and this would indicate the need for the construction of a pike battery and at the same time rebuilding of the nursery tanks at the hatchery.

**Conservation.** Since the subject of conservation was dealt with quite fully in previous paragraphs little remains to be said here in connection with the Gretna hatchery except that by reason of its location in close proximity to the Missouri river the large part of the conservation work will always be carried on from this point. The many overflows adjacent to the river require a large amount of conservation work at various times of the year and this work constitutes one of the most important activities of the hatchery.



**Distribution of Fish**

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Rainbow Trout .....	275,000	301,000	576,000
Brook Trout .....	111,000	16,000	127,000
Black Bass (L. Mouth) .....	117,5000	151,460	269,010
Black Bass (S. Mouth) .....	22,600	20,200	42,800
Striped Perch .....	4,350	6,650	11,000
Croppies .....	14,475	52,500	66,975
Channel Catfish .....	1,550	7,100	8,650
Sunfish .....	3,350	4,000	7,350
Rock Bass .....	450	200	650
Yellow Bullheads .....	10,850	17,400	28,250
Bull Frogs .....	5,050	2,000	7,050
German Carp .....	250	1,000	1,250
Gold Fish .....	312	896	1,208
<b>Total</b> .....	<b>566,787</b>	<b>580,406</b>	<b>1,147,193</b>

**BENKELMAN HATCHERY**

During the past two years a large amount of improvement work was done at this hatchery, including the erection of new buildings and repairs and alterations in connection with ponds and grounds. Some of this work, especially the erection of new buildings, was occasioned by the severe storm which visited this locality last August causing serious damage to practically all of the buildings.

**Buildings.** A new 5-room cottage to replace the one destroyed by the storm will be completed by the end of the present year. This cottage is thoroughly modern throughout, having a full basement and porches both front and rear. A chicken house 10x30 feet, garage 20x24 feet and a pheasant house with adjoining pens are the other buildings completed within the present year. The reservoir was re-covered by a new roof and all buildings given two coats of paint.

**Grounds.** The entire grounds have been surrounded by a substantial four-wire fence, considerable grading has been done

around the ponds, roadways and laws and piping laid for water supply and drainage purposes.

**Ponds.** A considerable increase was made in the pond area by raising the dams from 2 to 4 feet in height. Piping connections between ponds have been laid and provision made for increasing the hatching capacity for trout, the new troughs bringing the total capacity up to about 1,000,000 eggs per season.

The wind and hail storm of last August which wrecked most of the buildings, also did considerable damage to the ponds by raising the water and causing the dams to wash badly in many places. The overflow caused by the heavy rain also resulted in the loss of thousands of young fish which went over the dams, while large numbers of spawning fish died in the ponds, probably due to the sudden lowering of the temperature of the water due to the hail which fell.

**Conservation.** Conservation in the surrounding territory has been carried on from the hatchery. Several thousand sunfish and bull-heads have been removed from sloughs and ponds and placed in waters not subject to wide fluctuations during dry periods. The siphons of the French Irrigation Co. have been drained each fall and from this source from 7,000 to 15,000 small channel catfish have been taken and replaced in the Frenchman, Rock and Buffalo creeks.

**Future Needs.** Reports from this hatchery state that fishing for bass, croppie and perch has shown a marked improvement in the last two years in the lakes of Southwestern Nebraska as well as trout fishing in Buffalo and Rock creeks. The excellent fishing in this section attracts people from all parts of the state during the fishing season and bass weighing 4 to 5 pounds are frequently taken while trout weighing 2 pounds are not an uncommon occurrence.

While this hatchery has been successful in not only maintaining but increasing the fish stock of the various lakes and streams in western Nebraska, there is an urgent need for increasing the capacity of the hatchery, especially for bass, croppie and perch and it would seem that this could be effected at the least expense by leasing outside ponds which could be used as a nursery and thus relieve congestion at the hatchery.

**Distribution of Fish**

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Black Bass (L. Mouth) -----	77,750	8,500	86,205
Striped Perch -----	12,450		12,450
Rock Bass -----	2,500		2,500
Sunfish -----	10,040	10,700	20,740
Croppies -----	900	100	1,000
Bullheads -----	3,000	3,600	6,600
Rainbow Trout -----	31,000	76,800	107,800
Bull Frogs -----	24,300	8,000	32,300
Brook Trout -----		172,700	172,700
Catfish -----		150	150
Black Bass (S. Mouth) -----		600	600
<b>Total</b> -----	<b>161,940</b>	<b>281,150</b>	<b>443,090</b>

**VALENTINE HATCHERY**

**Improvements.** During the last two years the spillway leading from the head of the original pond system to the Minnechaduzza creek was enlarged, being made two feet deeper and six feet wider, so that now it has ample capacity for carrying off the flood waters and preventing the ponds from overflowing. This is an important improvement because overflows at certain seasons of the year invariably result in the loss of thousands of young fish and cause extensive damage to dams. Other repairs have been made to some of the dams, including rip-rapping and widening.

The most extensive improvement was the construction of three additional ponds at the head of the canyon. These new ponds are about 20 acres in extent which practically equals the area of the original pond and virtually doubles the capacity of the hatchery. With the completion of these ponds it will be possible to make a great increase in the output of fish for the next season.

One new building was erected, this being a garage 28x38 feet for sheltering the trucks and other apparatus kept at the

hatchery. There were minor improvements made to other buildings and all of these were given two coats of paint. More than 200 shade trees were planted and most of these are making a good growth. These improvements greatly add to the appearance of the grounds.

**Distribution of Fish.** The output of fish produced in the ponds of this hatchery within the past two years has been in round numbers, 400,000. These fish when distributed have averaged from 2 to 4 inches in length and were from 4 to 6 months old. Included in this number were a few thousand adult fish. When fish of this size are distributed to public waters they are of sufficient age and vigor to survive and it is a safe prediction that at least 95 per cent will live and grow to maturity, while it is estimated that of fish artificially hatched and planted in the fry stage but about 5 per cent will ever reach maturity.

The output of fish from this hatchery for the past biennium has been practically double that of any previous similar period in the history of the hatchery. And when it is considered that the average annual output of fish from pond hatcheries, state and national, is less than 100,000 fish of the same varieties it is evident that the state has at Valentine a hatchery comparing well with any in the country in the production of game and food fish.

**Future Development.** The recent additions to the pond area bring the total up to practically 45 acres and yet it is possible to extend this area so that the present capacity of the hatchery may be doubled. This possibility, in connection with an unlimited water supply and other natural advantages, makes this location an ideal site for a fish hatchery where fish may be produced in unlimited numbers at a minimum cost.

**Varieties of Fish Produced.** The following species of fish are being produced at this hatchery at the present time; black bass, rock bass, croppie, ring perch, blue gill and pumpkin-seed sun fish, which are all hardy species and have been found suitable for planting in any of the waters of the state.

The output of trout has been very limited for the reason that the supply of eggs must be obtained from hatcheries at



other locations and it is not always possible to obtain eggs in sufficient numbers to insure a large output. The capacity of the plant if used to the limit would enable about 800,000 eggs to be hatched annually.

**Conservation.** Very little conservation work is carried on from this hatchery except during short periods in the winter when it is often found necessary to station a man at the lakes south of Valentine to keep holes in the ice open for allowing the escape of gas formed by the decomposition of vegetation. At times this work is very important and results in saving thousands of fish which would otherwise perish when the surface of the lakes are frozen solid for long periods in the winter.

**Future Needs.** One of the imperative needs of this hatchery is the construction of additional ponds. These can be constructed at a much less expense than the ones previously constructed due to the natural advantages offered by the contour of the land. It is also desirable that funds be provided for building an ice house so that ice may be stored for use in making shipments of fish. It is important too, that a well should be sunk and a concrete reservoir constructed providing a water system for supplying the needs of the house, watering the laws, trees, etc. This well could be equipped with a wind mill so that the pumping of the water would cost very little other than the original investment which would not be large.

Kinds of Fish	Dec. 1, 1920	Dec. 1, 1921	Total for Biennium
	to Dec. 1, 1921	to Dec. 1, 1922	
Brook Trout -----	194,000	195,000	389,000
Rainbow Trout -----	10,200	135,000	145,200
Striped Perch -----	53,990	19,100	73,090
Croppies -----	32,625	18,100	50,725
Black Bass (L. Mouth)-----	17,600	14,300	31,900
Black Bass (S. Mouth)-----	41,000	1,000	42,000
Sunfish -----	59,895	9,900	69,795
Bull Frogs -----	12,000	12,200	24,200
Rock Bass -----	16,500	1,500	18,000
Bullheads -----	6,975	2,000	8,975
Catfish -----	100	200	300



Gold Fish -----	82		82
Pickereel -----		200	200
<b>Total</b> -----	<b>444,967</b>	<b>408,500</b>	<b>853,467</b>

## STATISTICS

### LICENSES AND PERMITS

A number of the laws delegated to the Department for enforcement contain a provision for the authorization of licenses and permits. The object of this requirement may be said to be two fold, the first thing being regulatory, and the second providing for a source of revenue to carry on the activity. Under a licensing and permit system enforcement is frequently obtained without prosecution and the penalty of a fine, for the reason that under the authority vested, the license or permit may be revoked. The funds from the collection of fees for the issuance of these licenses and permits is in many instances insufficient to defray the expense of carrying out the intent of the law. By grouping a number of subjects the expense of both the field inspection and the clerical work is materially reduced. This plan has been employed in the past and has proven very successful.

The following tables contain (1) the total number of licenses and permits issued, (2) the number of certificates of registration and authorization of veterinarians issued during the biennium:

#### Licenses and Permits.

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Babcock Test -----	2817	3314	6131
Cheese Factories -----	2	1	3
Cold Storage -----	36	36	72
Cold Storage Inspections -----	33	29	62
Commission Merchants -----	124	128	252
Condensed Milk Plants -----	4	2	6
Creamery -----	75	86	161
*Dairy -----	567	217	784
Manufacture of Imitation Butter -----	1	1	2
Manufacture of Soft Drinks -----	58	66	124
Retail Ice Cream -----	68	67	135
Retail Imitation Butter -----	1246	1768	3014
Slot Weighing Machine -----	280	707	987
Wholesale Ice Cream -----	78	89	167
Wholesale Imitation Butter -----	1	1	2
<b>Grand Total -----</b>	<b>5390</b>	<b>6512</b>	<b>11902</b>

\*The decrease in the number of dairy licenses is due to an amendment passed by the 1921 session of the Legislature to the effect that a license be required for an establishment where the milk or cream was obtained from a herd of twenty-five cows or more. Prior to this change the law provided a license for each dealer selling milk or cream from a herd of more than five cows.

### Certificates of Registration

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Authorization of Veterinarians -----	226	309	535
Commercial Fertilizer -----	6	2	8
Concessions -----	580	564	1144
Hotels -----	800	817	1617
Hog Cholera Serum and Virus -----	29	33	62
Live Stock Remedy -----	70	43	113
Rooming Houses -----	680	659	1339
Restaurants -----	2248	2542	4790
<b>Grand Total -----</b>	<b>4639</b>	<b>4969</b>	<b>9608</b>

### FINANCIAL STATEMENT

**Receipts.** The funds for financing the activities of the several bureaus of the Department are largely derived from the fees collected which are appropriated by the Legislature for the purpose of carrying out the provisions of the statutes. The fees collected by the Bureau of Food, Drugs and Oil and Markets and Marketing are pooled in one fund for carrying on the work delegated to them for enforcement. The fees collected by the Bureau of Game and Fish are appropriated for the work provided for by the game laws. The funds for the Bureau of Animal Industry are provided for by an appropriation from the general fund. There are practically no fees collected by this Bureau at the present time. The following table contains the total receipts of fees collected by the Department.

**Bureau of Food, Drugs and Oil and Markets and Marketing**

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Babcock Test -----	\$ 5,634.00	\$ 6,628.00	\$ 12,262.00
Creameries -----	1,808.00	2,174.00	3,982.00
Cold Storage Inspections -----	830.00	840.00	1,670.00
Commercial Fertilizers -----	120.00	40.00	160.00
Condenseries -----	40.00	20.00	60.00
Cheese Factories -----	20.00	10.00	30.00
Commercial Feeding Stuffs Tax Tags -----	2,602.00	4,623.80	7,225.80
Dairy -----	693.00	434.00	1,127.00
Hotels -----	9,650.00	10,069.00	19,719.00
Live Stock Remedy -----	350.00	230.00	580.00
Miscellaneous -----	234.53	96.71	331.24
Maufacture of Soft Drinks -----	580.00	660.00	1,240.00
Manufacture of Imitation Butter -----	100.00	100.00	200.00
*Oil Inspections -----	124,821.00	136,954.57	261,775.57
Potato Inspections -----	12,011.00**	18,055.00	30,066.00
Retail of Ice Cream -----	68.00	67.00	135.00
Retail of Imitation Butter -----	1,246.00	1,768.00	3,014.00
Sale of Oil Reports -----	705.00	750.00	1,455.00
Testing Seeds -----	-----	233.75	233.75
Wholesale Imitation Butter -----	625.00	625.00	1,250.00
Weights and Measures Inspections	14,113.46	20,463.05	34,576.51
Wholesale Ice Cream -----	390.00	445.00	835.00
<b>Total -----</b>	<b>\$176,640.99</b>	<b>\$205,286.88</b>	<b>\$381,927.87</b>

\*Fees in controversy ----- \$ 12,582.12

\*\*The Potato Grading Law prior to July, 1921 provided for the \$2 per car inspection fee to be paid direct to the inspector.

**BUREAU OF GAME AND FISH**

License Fees -----	\$ 89,669.43	\$107,283.65	\$196,953.08
Sale of Fish -----	358.72	-----	358.72
Sale of Beaver Hides -----	-----	393.74	393.74
<b>Total -----</b>	<b>\$ 90,028.15</b>	<b>\$107,677.39</b>	<b>\$197,705.54</b>

**BUREAU OF ANIMAL INDUSTRY**

Fees Received from Stallion Registration -----	\$ 929.50	-----	\$ 929.50
<b>GRAND TOTAL -----</b>	<b>\$267,598.64</b>	<b>\$312,964.27</b>	<b>\$580,562.91</b>

**Expenditures.** The records relating to the expenditure of funds by the various activities of the Department are kept by the Department of Finance. Requests must be made for material, supplies, salaries and wages, as well as any other expenditures, so that the funds available may be encumbered and in this way eliminate any possibility of a deficiency. The funds for the biennium are allotted on a three months or quarterly basis which is an additional guarantee that encumbrances can be met during the entire period of the biennium. The following tables show the expenditures for carrying on the activities of the entire Department and the several bureaus of the Department:

#### Bureau of Food, Drugs and Oil.

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Salaries -----	\$ 49,351.39	\$ 51,355.72	\$100,707.11
Supplies -----	5,739.17	2,879.44	8,618.61
Expense -----	35,549.28	32,809.36	68,358.64
Material Parts & Repairs	33.30	62.35	95.65
Equipment -----	1,564.85	302.51	1,867.36
<b>Total -----</b>	<b>\$ 92,237.99</b>	<b>\$ 87,409.38</b>	<b>\$179,647.37</b>

#### Bureau of Markets & Marketing

Salaries -----	\$ 29,836.36	\$ 40,390.45	\$ 70,226.81
Supplies -----	1,835.55	2,726.12	4,561.67
Expense -----	16,852.97	22,400.69	39,253.66
Material, Parts & Repairs	33.20	251.57	284.77
Equipment -----	4,117.29	2,893.91	7,011.20
<b>Total -----</b>	<b>\$ 52,675.37</b>	<b>\$ 68,662.74</b>	<b>\$121,338.11</b>

#### Bureau of Animal Industry

##### General Activities

Salaries -----	17,585.05	13,241.16	30,826.21
Supplies -----	4,269.27	3,124.36	7,393.63
Expense -----	10,791.12	5,329.68	16,120.80
Material, Parts & Repairs	13.00	1.00	14.00
Equipment -----	488.03	420.39	908.42
<b>Total -----</b>	<b>\$ 33,146.47</b>	<b>\$ 22,116.59</b>	<b>\$ 55,263.06</b>



**Bovine Tuberculosis**

	Dec. 1, 1920 to Dec. 1, 1921	Dec. 1, 1921 to Dec. 1, 1922	Total for Biennium
Salaries -----	\$ 18,248.38	\$ 30,466.14	\$ 48,714.52
Supplies -----		5,296.40	5,296.40
Expense -----	8,475.01	11,831.87	20,306.88
Fixed Charges -----	44,009.67	118,142.86	162,152.53
<b>Total</b> -----	<b>\$ 70,733.06</b>	<b>\$ 165,737.27</b>	<b>\$ 236,470.33</b>

**Bureau of Game and Fish**

Salaries -----	\$ 23,094.04	\$ 26,761.34	\$ 49,855.38
Supplies -----	3,108.34	5,859.86	8,968.20
Expense -----	10,735.28	12,834.75	23,570.03
Material, Parts & Repairs	1,533.64	3,689.41	5,223.05
Equipment -----	2,970.34	5,205.79	8,176.13
Lands and Buildings ---	725.03	7,277.16	8,002.19
Public Improvements ---	36.72		36.72
Fixed Charges -----	23.54		23.54
<b>Total</b> -----	<b>\$ 42,226.93</b>	<b>\$ 61,628.31</b>	<b>\$ 103,855.24</b>

**General Summary****Department of Agriculture**

Salaries -----	\$119,866.84	\$131,748.67	\$251,615.51
Supplies -----	14,952.33	14,589.78	29,542.11
Expense -----	73,928.65	73,374.48	147,303.13
Material, Parts & Repairs	1,613.14	4,004.33	5,617.47
Equipment -----	9,140.51	8,822.60	17,963.11
Public Improvements ---	36.72		36.72
Lands and Buildings ----	725.03	7,277.16	8,002.19
Fixed Charges -----	23.54		23.54
<b>Grand Total*</b> -----	<b>\$220,286.76</b>	<b>\$239,817.02</b>	<b>\$460,103.78</b>

\*Expenditures for Eradication of Tuberculosis not included.

**Inventory of the Department of Agriculture.**

Office of Secretary -----	\$ 596.00
Bureau of Food, Drugs & Oil -----	3,386.50
Furniture, Equipment and Supplies Laboratory Room -----	7,455.04
Division of Weights and Measures -----	5,434.00
Bureau of Animal Industry -----	1,989.00
Markets and Marketing -----	4,360.00
Game and Fish -----	1,517.00
Valentine Fish Hatchery -----	1,843.50
Benkelman Fish Hatchery -----	563.50
Gretna Fish Hatchery -----	5,866.25
<b>Grand Total -----</b>	<b>\$33,010.79</b>

## **ABSTRACT OF RECOMMENDATIONS FOR THE CONSIDERATION OF THE GOVERNOR AND MEMBERS OF THE LEGISLATURE:**

The experience of the past two years in the enforcement of the several laws delegated to the Department for enforcement have demonstrated the advisability of a number of changes which should be provided for by legislative act. These changes are referred to under the subject of the law affected, and are grouped under the general captions of the Bureaus enforcing the same.

### **BUREAU OF FOOD, DRUGS AND OIL**

#### **Pure Food Law**

1. All food sold in package form should be plainly and legibly marked in terms of the net weight or measure. This would eliminate the present misleading practice of selling by count.

2. A moisture content standard for butter should be established in accordance with the Federal Standards. There is no state standard at the present time.

3. Suitable standards for fat and total solids in imitation canned milk should be established. There are no such standards at the present time.

4. All persons buying eggs to be resold should be required to candle these eggs when received.

#### **Dairy Law**

1. The compulsory annual tuberculin test should apply to all dairy herds regardless of the ultimate disposition of the dairy products.

2. All establishments where milk or cream is manufactured into other forms of dairy products should be compelled to pasteurize this milk or cream either before or during the process of manufacture.

3. Every person testing milk or cream where this prod-

uct is bought on a butter fat basis should be required to obtain a Babcock Test License.

4. The Babcock test should not be operated by artificial light.

### **Gasoline Law**

1. In view of the fact that the rate of the gasoline inspection fee is again being contested in the court, it would undoubtedly be advisable to repeal this fee entirely and provide a tax of one cent per gallon on gasoline, the inspection to be continued by this Department and the tax collected and so much thereof used as is necessary to carry on the work and the remainder to be used for the construction of good roads.

### **Hotel Law**

1. The present Hotel Law should be entirely re-written. The law should clearly define the terms "Hotel," "Rooming House," and "Restaurant," and the provisions should only relate to establishments dealing with transient guests.

2. The present law contains a number of errors and provisions which handicap the enforcement work.

3. A bill similar to the Hotel Law introduced in the 1921 Session of the Legislature would overcome these difficulties.

### **Chemical Laboratory**

1. Suitable laboratory equipment and an additional chemist should be provided for the analytical work relating to commercial feeding stuffs, live stock remedies, fertilizers, paints and linseed oils.

2. The chemical analysis of samples submitted under the enforcement of the Prohibition Law should be taken care of by the Enforcement Division. This work interferes with the regular chemical work in the Bureau to such an extent that it should be entirely separated to obtain the best results.

## BUREAU OF ANIMAL INDUSTRY

### Tuberculosis Eradication

1. An appropriation similar to the last biennium would be advisable to carry on the tuberculosis eradication work. Sufficient funds should be provided for the indemnity of reactors found under the compulsory testing of cattle under the Dairy Law. A reasonable appropriation should be made for continuing the cooperative work under the area plan.

2. The present maximum indemnity for grade cattle should be reduced from \$25.00 to \$20.00 per animal and pure bred should be reduced from \$50.00 to \$40.00 per animal.

### Scabies

1. The law should be amended to provide for the compulsory dipping of cattle in affected areas. This will be the only means of controlling and eventually eliminating this disease.

2. A reasonable appropriation should be made to carry on scabies eradication work.

### Vaccines and Serums

1. A law to regulate or prohibit the sale of vaccines, serums, and other substances used for the prevention, eradication and cure of contagious, infectious or otherwise transmissible diseases of domestic animals should be provided for.

## BUREAU OF MARKETS AND MARKETING

### Weights and Measures Law

1. The present law provides that a bushel shall consist of 2150 cubic inches. This is an error. The standard U. S. bushel is 2150.42 cubic inches. This correction should be made. In the case of rye flour, rye graham, wheat graham, whole wheat flour and cornmeal the present law provides as one of the sizes for these products sold in package form "one thirty-second bushel sack or carton, 1½ pounds." This is an error. These words should be stricken out.



**Seed Law**

1. A reasonable appropriation should be made to provide for an adequate force for the analytical work as well as the field inspection service. The fees obtained are insufficient to defray the expense of carrying out the provisions of the Seed Law.

**Bee Husbandry Law**

1. An adequate appropriation should be made for the enforcement of this act.

2. The activities in Douglas county should be continued and the work extended in other counties as funds would permit.

**Pest Eradication Law**

1. An appropriation for a revolving fund of \$10,000.00 should be made to carry out the provisions of this act.

2. The law should be clarified and all provisions or acts conflicting with this measure should be repealed.

3. Provisions should be made for funds to defray the cost of the eradication of pests from state owned school lands.

4. Wherever possible pest control should be undertaken cooperatively with agricultural organizations in the county or district involved.

5. The activities carried on in Scotts Bluff and Sioux counties during the present year should be continued during the coming biennium.

**Commission Merchants Law**

1. The law should be amended to provide for a greater bond and more authority to make investigations of commission merchants and for adjusting of complaints.

**Cold Storage Law**

1. The present law should be amended to conform with the Uniform Cold Storage Law.

**Farm Warehouse Law**

1. The present Farm Warehouse Law and Public Warehouse Law should both be repealed and a new measure passed similar to the Federal Warehouse Act providing for an adequate system of warehousing under Federal or State provisions.

**Potato Grading Law**

1. The present compulsory Potato Grading Law should be retained.

2. As the volume of inspections increases the inspection fee at point of origin should be reduced from \$4.00 to \$3.00. The \$5.00 fee at point of destination for reinspections should be maintained.

3. The cooperative potato market reporting service should be maintained.

**Agricultural Statistics Law**

1. A reasonable appropriation should be made for compiling the agricultural statistics and collecting agricultural information and general agricultural publicity.

**BUREAU OF GAME AND FISH****Game Birds—Bag Limit**

1. The daily bag for water fowl for the first thirty days of the open season should be reduced from twenty-five to ten birds. The total number of birds in possession at any time should be reduced from fifty to twenty. After October 15th the existing bag limit should apply.

2. A license should be provided for any person using live decoys.

**Fish—Frogs**

1. The present law prohibits the use of live frogs for bait. An amendment should be made permitting the use of frogs for bait the same as minnows.

### **Trapping and Fur Bearing Animals**

1. Every person should be required to secure a Trapping License before he engages in the trapping of fur bearing animals. The present law provides that any person under sixteen years of age be not required to have such a license.

2. Every person engaged in the buying of hides of fur bearing animals should be required to secure a license for this purpose. The present law provides that any person, persons, firm or corporation may secure such a license.

### **Game Farming**

1. The present law provides for a breeder's permit for the raising of wild game and fur bearing animals in captivity. It also provides for a permit for game farming. These sections should be repealed and a provision made for a permit for game farming of any wild species and strict regulation for the sale of such animals.

### **Game Reserves**

1. The establishment of additional game reserves and bird sanctuaries should be encouraged.

2. School sections or public lands should be properly posted if the natural surroundings are favorable to the propagation of wild animal life.

### **Conservation of Fish**

1. The conservation of fish from temporary to permanent waters of the state should be continued. This work is less expensive than the propagation of fish in the hatcheries and should be one of the principal sources of fish supply for stocking the permanent waters of the state.

2. A site by purchase or lease should be obtained in each of the principal lake regions of the state as a base for carrying on conservation work and fish culture to increase the production of fish for distribution each year. The present out-put plan

could be materially increased under this plan at a minimum of expense.

3. The above methods of increasing the yearly fish out-put should be adopted instead of the establishment of additional fish hatcheries.

### **Park Systems**

1. In view of the fact that the game and fish work is closely allied to the management of parks, it would undoubtedly be advisable to merge these two activities under one Bureau in the Department. Both activities have for their purpose recreation for the public. The time has come when it will be necessary to establish large bodies of water or large areas as public fishing and hunting grounds. Unless this is done these privileges will soon be limited to a few favored individuals. This could well be carried on, keeping in mind both the hunting and fishing when additional parks are established.

2. The fees from hunting and fishing licenses should primarily be used to further these activities. Neither should be handicapped in development.

3. Any surplus fees from hunting and fishing licenses should be applied to the development of an adequate park system, keeping in mind the protection and propagation of wild animal life.

### **PUBLICATIONS.**

Following is a list of the printed matter issued by the Department of Agriculture since August 2, 1919.

#### **Laws Enforced**

Bulletin No.

1. General Powers.
2. Oil.
3. Dairy.
4. Pure Food.
5. Sanitary Food.
6. Cider and Vinegar.

7. Oleomargerine and Butterine.
8. Cold Storage.
9. Paint and Linseed Oil.
10. Commercial Feeding Stuffs.
11. Live Stock Remedy.
12. Commercial Fertilizer.
13. Commission Merchants.
14. Hotel.
15. Weights and Measures.
16. Seed.
17. Potato Grading.
18. Tuberculin Live Stock.
19. Stallion Registration.
20. Live Stock Disease Control.
21. Game and Fish.
22. Turpentine.
23. Serum and Virus.
24. Soft Drink.
25. Pest Eradication.
26. Food Hoarding.
27. Standard Loaf of Bread.
28. Agricultural Statistics.
29. Farm Warehouse.
30. Bee Husbandry.
31. Tuberculin.

### Regulatory Announcements

#### Circular No.

1. Cold Storage.
2. Cream Stations.
3. Bottling Establishments.
4. Liquid Measuring Devices.
5. Agricultural Seeds.
6. Fur Bearing Animals.
7. Hotels and Rooming Houses.
8. Potatoes.
9. LiveStock Exhibits.
10. Live Stock Importations.



**Special Bulletins**

## Bulletin No.

101. Nebraska Weeds.
102. Co-operative Laws.
103. Agricultural Statistics for 1919.
104. Babcock Test.
105. Graduate Licensed Veterinarians.
106. Regulations-Importations of Live Stock.
107. Agricultural Statistics for 1920.
108. Co-operative Associations—1919.
109. Co-operative Associations—1920.
110. Nebraska at a Glance.
111. Successful Co-operation.
112. Co-operative Law.
124. Livestock Directory.
113. Market Standards and Grades for Nebraska Potatoes.
114. Agricultural Statistics for 1921.
115. Testing Cattle for Tuberculosis.
116. The Poultry Industry in Nebraska.
117. The Potato Industry in Nebraska.
118. Co-operative Companies.
119. The Dairy Industry in Nebraska.
120. Agricultural Nebraska.
121. Organization and Activities.
122. Opportunities in Western Nebraska.
123. Agricultural Statistics for 1922.
124. Livestock Directory.

















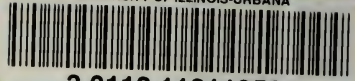








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